

(1904)

E--509. *(447)* 447 ?

I Enter the U.S. Department of Agriculture.

I called at the Bureau of Plant Industry and was referred to Dr. A.F. Woods, then Assistant Chief of Bureau. I found his office in an old brick building at 1306 B Street, ~~SW~~ S.W. He was a smiling pleasant gentleman of about my own age who informed me that a stenographic clerk was needed by Dr. Walter T. Swingle and that the entrance ^{ce} salary was only \$1,000 a year. I asked what the prospects for promotion were in case I accepted the appointment and my services were satisfactory. He said they were good. I decided to accept the appointment and report for duty early in May. As my lease of the office up town ran until the end of October I had to continue to pay rent. I therefore kept the office open, in charge of Miss Postley who was willing to stay on for what she could make, with the thought that I might want to resume the shorthand business in the autumn.

I Enter Upon Duty.

Mr. Swingle's office was in a small dwelling at the southwest corner of 13th and B Streets, S.W. He occupied the front room and I was assigned to a small room back of it on the first floor. Mr. Charles J. Brand had a room on the second floor. We had one messenger boy. That was the personnel of the Office of Plant Life History at that time. Mr. Swingle was an ultra scientist and not very communicable with subordinates or laymen. He was primarily a botanist and his specialty was plant life history, or the limiting conditions of plant life, such as temperature, moisture, soil and soil content, the characteristics, habits, environment and history of plants and their behavior under different conditions, all of which was a most fascinating study for

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any one interested in plants. He had traveled extensively, especially in North Africa where he studied date palms, obtained suckers of the best varieties, established orchards in the Imperial Valley of California and at Tempe, Arizona, and wrote an exhaustive bulletin on the subject. He had succeeded in introducing the Blastophaga, or Mediterranean wasp, that is necessary to fertilize figs, at a cost of a few cents postage, thereby establishing a Smyrna fig industry in California, although this was for many years a matter of controversy between him and the entomologists of the Department. He had introduced many other plants of possible economic value, and with the collaboration of Dr. H. ~~G.~~ Webber had succeeded in crossing the Florida sweet orange with the trifoliate sour orange of Japan in the hope of producing an edible citrus fruit sufficiently hardy to greatly extend its northern range.

In connection with his projects Mr. Swingle was establishing a number of small cooperative ~~stations~~ experiment stations in different regions of the country, purchasing scientific apparatus, and writing detailed instructions how to use the instruments, ^{and} make observations and detailed records. Various colleagues in the bureau called from time to time and they discussed with Mr. Swingle in the most technical terms, many of which they themselves originated from ^Greek or Latin roots, the whole field of evolution, genetics, the operation of Mendell's law, the variations, mutations, or sports obtained by De Vries, and played with such endearing terms as chromosomes, nuclei, ascomycetes, and other verbal monstrosities that were new to me. For many weeks I studied botanical textbooks, botanical dictionaries, and technical bulletins, until I soon acquired the necessary vocabulary.

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Among these colleagues of Mr. Swingle whom I met were Dr. H. J. Webber, O. F. Cook, A. D. Shammel, Carl F. Scofield, T. A. Kearney, Guy N. Collins, Mr. Shantz, David Fairchild, and later Dr. N. A. Cobb. These were all exceedingly interesting men, men who had traveled about the world and explored wildernesses and unknown regions, who were doing constructive work, were ~~genial~~ congenial and formed a sort of "clique."

Mr. Swingle was inclined to be impatient and lacking in consideration for any one who was not a professional scientist, i. e., a layman. Although he was systematic enough to keep a rather comprehensive record of notes and observations in card index form, his correspondence was in abominable shape and most of it piled in a heap on his desk. He showed displeasure one morning when he came in and found that I had cleared his desk and was sorting and filing the accumulation of many weeks or months. However, he soon became reconciled to having things filed alphabetically in such a way that either he or I could find a letter quickly.

The Guatamalan Ant.

I had been with Mr. Swingle only a few months when he received a letter from Dr. O. F. Cook from Guatamala in which he said that the native cottons^e continued to produce in spite of the presence of the boll weevil, perhaps for centuries, and suggesting that possibly the boll weevil was held in check by a small native ant that had been observed to attack the weevils. Mr. Swingle became greatly excited. The Mexican boll weevil had recently invaded Texas and was a menace to the entire cotton crop of the United States unless some means were found to check or control it. Mr. Swingle jumped to the conclusion that Dr.

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Cook had discovered a natural enemy of the boll weevil and if effective in holding the weevil in check it was a discovery of the utmost importance. Mr. Swingle rushed the news to his colleagues, to the chief of bureau, and to the Secretary of Agriculture, a press release was gotten out proclaiming the great discovery, and the Secretary was induced to authorize the sending of cable instructions to Dr. Cook to secure and forward to the United States a large consignment of the Guatamalan ant. Soon thereafter, while the iron was hot and upon Mr. Swingle's suggestion, the salary of Dr. Cook was increased. About this time I read a description of the boll weevil to the effect that it was a small beetle, that it could fly, that the insect invaded new territory at the rate of 75 to 150 miles a year, and that the progeny of a single pair of healthy prosperous weevils would run into the billions or trillions in a single propitious season. With these wonderful powers of reproduction and dispersion I could not see how, purely as a practical and mathematical proposition, it would be possible to check the weevil with the kind of ants that I had observed in Texas, ferocious creatures that would attack any living thing, but that could not fly, never went far from their nests in the ground, and did not seem to multiply noticeably from year to year. I ventured to mention this point of view to Mr. Swingle, but he seemed annoyed and answered rather gruffly that "the Guatamalan ant is quite different from the Texas ants." A second letter from Dr. Cook was less optimistic than the first. He described the Guatamalan ant as a small black ant, rather slow in its movements, its range of vision not more than two inches, and its range of activities not more than a few yards from its nest. He could not say how fast they would propagate.

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E--513.

However, against the mild protests of Dr. Cook, the campaign was carried forward. Dr. Cook and some of his assistants returned to the United States bringing with them a consignment of Guatamalan ants. They were to land at New Orleans. More publicity. Then the press of Louisiana, Texas, and other southern States broke out with statements to the effect that the southern States already had more ants than they needed, that the Guatamalan ant might get out of bounds and prove very destructive, and that therefore it ought to be quarantined. I have forgotten whether or not Dr. Cook and his assistants with their precious cargo were actually quarantined at New Orleans, but they did succeed in getting the ants out to Texas where a corps of men drawing government salaries spent several years nursing the delicate creatures with very meager results other than learning a lot about the life history of the ants. Publicity died down and in the course of time the Guatamalan ants were forgotten.

Mr. Charles J. Brand, who was attached to the Plant Life History Project and had an office in the same building with us, was specializing on clovers and alfalfas, especially Grimm alfalfa which he found thriving in Minnesota and about which he wrote a bulletin. The distinguishing characteristic of the Grimm alfalfa was its spreading habit which enabled it to withstand hard winters better than the ordinary varieties.

Early in my employment I was dissatisfied both with my salary and with working conditions, a small poorly lighted office and inadequate equipment. ~~I spoke about it~~ ^{I asked} Several times ~~to the~~ ^{for a transfer} chief clerk of the Bureau, Mr. James E. Jones, if a vacancy should occur in a larger office during the summer, as otherwise I would

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expect to resign in the autumn.

Transfer to the Office of the Chief.

Early in the fall I received a telephone message to go to the office of the chief of bureau, Dr. B. T. Galloway, regarding the position of private secretary which was about to become vacant. I hesitated at first because I happened to be wearing an old bicycle suit and had never seen Dr. Galloway, but only for a moment. I found Dr. Galloway to be a slender, somewhat nervous, gentleman approaching middle age, with keen kindly eyes and mild but energetic manners. I stated my experience, explained my situation, and said that unless I could get a more responsible position or one that promised early advancement I would have to resign about the beginning of October. He promptly decided that he wanted me and said that I could report to him the next day or shortly thereafter. I learned later that Mr. Swingle objected strenuously to my transfer. If so, that probably was considered as a strong recommendation because no former employe had been able to satisfy Mr. Swingle's requirements.

I was greatly pleased at the transfer and the opportunity to work with the chief of bureau, and even more pleased when a new appointment was handed to me a few days later raising my salary from \$1,000 to \$1,400. My first transcript of Dr. Galloway's dictation was unsatisfactory to us both. His dictation came spasmodically, his thoughts coming fast at times and found expression without much regard to grammar and none at all to punctuation. Former employers, especially General Ainsworth, were meticulous in their choice of words, phraseology, and punctuation, and in-

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sistent that the transcript should be a literal, verbatim reproduction of what they said, word for word and with punctuation exactly as they gave it, and the making of a verbatim transcript had become a habit with me, except in reporting where I used discretion in smoothing out irregularities. In typing the transcript of Dr. Galloway's first dictation to me I had misgivings but did not feel justified in making alterations until I knew him better. I submitted the manuscript with some trepidation and saw at once that he was displeased. He showed irritation as he started to make corrections. Then I had an inspiration. Feeling that I could not make matters worse, I asked quietly if I might make the corrections. He looked at me disapprovingly and said rather testily, "It's full of mistakes." "I know it is, Doctor," I answered, "I could have made the corrections easily as I went along, but without permission from you I did not feel free to correct errors that creep into dictation." He handed back the copy, with the remark, "Suppose you revise this." I did so quickly and when I handed it back to him his face lighted up and he told me thereafter to use the utmost freedom in expressing his thought regardless of what he actually said. Within a few weeks much of his dictation was simply instructions as to how he wished correspondence answered or statements prepared, leaving it to me to formulate replies and statements.

Dr. Galloway soon began to take me with him on his visits to the various offices of the bureau where I became acquainted with the chiefs, specialists, and other employes, saw their equipment and the conditions under which they worked, the books of reference on their shelves, and listened to the conversations regarding administrative and technical questions. Periodically

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we inspected the greenhouses and the experimental work on the grounds, and occasionally Dr. Galloway dictated notes about the things he saw that needed attention or about the behavior of some of the plants. About that time he was carrying on some breeding work with lettuce. Near his office he had plots of lettuce hybrids and periodically we took notes on them, and from his explanations I learned something about the fascinating work of creating new or improved varieties by crossing and selection. He had rows of many well known varieties of lettuce and alongside were rows of hybrids obtained by cross-pollinating them. He described the ideal type of lettuce he had in mind, pointed out the hybrids that most nearly approached his ideal, and explained how he hoped ultimately to fix a strain that would fairly represent his ideal.

In the range of greenhouses on the north side of the grounds other experiments in plant breeding were under way, principally by Mr. George Oliver, under Dr. Galloway's personal direction. Among them was one with clover, which is difficult to cross-pollinate because of the form of the blossom and the delicacy of the parts. Mr. Oliver hit upon the plan of gently spraying pollen from one parent plant upon the stamens of the other parent, which proved to be quite successful.

I was very happy in my new work because of the variety and freedom of it, the spirit of goodwill, comradeship, and cooperation among the employes of the Bureau of Plant Industry, the complete absence of the ~~dis~~picable rank and caste system of the War Department, and above all the opportunity to learn something of the scientific side of agriculture. My life on

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E-517.

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or "Department of Agriculture"
At that time the old red brick administration building was occupied by the office of the Secretary, Assistant Secretary, Chief Clerk, Library, and in the basement was the Department's printing establishment. Near it to the southeast was the red brick building occupied by the Bureau of Entomology and the Bureau of Statistics. A road led from the rear of the administration building to B Street and the open end of 13th Street, S.W. East of this road was an old frame building called the "Museum," which contained exhibits of various kinds. Later the exhibits were removed and for some years the building was used as a lunch room. West of the road was a garden, usually bright with flowers. Near it were several glass houses. One of these had been bricked up, a second story added, and in it were the offices of the Chief of the Bureau of Plant Industry and his immediate staff. The whole was an "L" shaped structure, one room deep, and rather shabby in appearance. At one point on the ground floor was a single room without door or window, covered inside with yellow unpainted pine flooring, lighted with electricity, and could be entered only from the second floor by a narrow stairway. This room was known in the office as the "Hole," and few people knew of its existence. When Dr. Galloway wished to be alone and free from interruption he would retire to "the hole," and often I went with him. Near this office structure was a greenhouse full of ferns and azaleas, and between it and the main building was a small structure full of silk worms, cocoons, and apparatus for unwinding the delicate fiber. On a terrace parallel with

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the greenhouses was a fine hedge of arborvitae. ^P Between the office buildings and B Street to the south ~~working~~ workmen were excavating for the new Department of Agriculture building. Dr. Galloway was chairman of the building committee and in the room adjoining his office were two architectural engineers drawing plans for the plumbing, heating, and lighting equipment, and it was in their room that I had my desk. The department had begun to grow and expand under the able administration of "Tama Jim" Wilson and most of it was housed in many rented private dwellings in the neighborhood that were poorly suited for office or laboratory purposes. Congress had appropriated \$3,990,000 for "a building" for the Department of Agriculture. Between the time that the original plans and estimates were prepared and the time the Congress made the appropriation and it became available for use, the department had continued to grow so that the appropriation was clearly inadequate. Also the cost of materials and labor had gone up. The plans called for a large quadrangular building on four sides of a hollow square, each side of which was called a unit, and there was to be an ornamental structure in the center facing north for the administrative offices. Because the appropriation was inadequate the building committee decided to proceed with the construction of two units on the north side, to be designated as the East Wing and the West Wing, with an open space between for the administrative unit whenever Congress should supply the necessary funds, it being thought that Congress would surely make the necessary appropriation to fill in the hideous gap. ⁶² This plan met with the approval of the Fine Arts Commission and the President. However, Congress resented this action and refused to grant further funds for a Department of Agri-

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(1904)

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One of my tasks during the winter months of 1904-1905 was to prepare a financial statement of the small appropriation for Farm Demonstration Work under Dr. Seaman A. Knapp. Dr. Knapp was a pioneer in farm demonstration work in the south and spent most of his time in the field lecturing and organizing and cared little for booking or accounts. The result was that neither he nor any one else knew just how much of the appropriation had been spent, or whether the unexpended balance, if any, was sufficient to continue the work until the end of the fiscal year. Dr. Knapp turned over to me such memoranda as he had and by dint of questioning I was able to make up a statement that was satisfactory. I learned that he had taught agriculture at Ames, Iowa; that he had gone to Louisiana and become interested in the rice industry, and had made a trip to Japan where he obtained seed of improved varieties which he brought back with him;

culture building, although the department continued to expand and to occupy more and more private buildings, the rental of which in twenty-five years probably amounted to much more than the entire building would have cost prior to the great war. Another difficulty the building committee ran into was an order of the President, based on recommendations of the Fine Arts Commission, that the new building should be set on the level of a proposed boulevard extending from the Capitol to the Washington Monument. This necessitated further excavation and setting the foundation so low that the top of the first story was below the level of the ground so that it really became a sub-basement, difficult to light and ventilate, and this poorly adapted space was occupied by employees for more than a quarter of a century.

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that he had great difficulty in introducing improved seed and better methods in the South because of the distrust of the farmers for white-colored^l theoretical gentlemen from the cities or universities; that he then hit upon the plan of employing influential men in each community as demonstration agents, these agents agreeing to follow instructions as to seed, preparation of the ground, use of fertilizers, methods of cultivation and harvesting, so that the neighbors could see with their own eyes the results of the new methods as compared with the old that they were using. This plan proved very successful and was the foundation of the county agent system that later was adopted throughout the United States as the Extension Service and was copied in many other countries.

Another form of demonstration was the growing of seed of improved varieties that had been developed by the plant breeders of the bureau, such as maize, cotton, tobacco, wheat, and so on, under contract by which the farmer agreed to grow a certain number of acres under written instructions, the Department retaining an option on the resulting crop at a fixed price and guaranteeing to pay the farmer so much per acre.

Dr. Galloway had experimented with growing violets on a commercial scale and had written a book on the subject that was and still is an authority on the subject. He was interested in the growing of crops under glass and the cut flower industry and was on the program for the spring meeting of the American Horticultural Society. In preparation for his address he asked me to prepare a table showing the average monthly prices of cut flowers on the principal wholesale markets of the United States and said I would find the weekly quotations in the Florists Ex-

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change and other trade papers. I compiled the weekly quotations from these publications for the larger wholesale markets and for each of the principal items, made monthly and annual averages, which were set forth in tabular form, and a text summary. I know now that the work was statistically rather crude, but it had not been done before and was generally accepted and brought no unfavorable comment.

In April Dr. Galloway decided to make an inspection trip to the Pacific Coast, to be gone about two months. He instructed me to study the accounting system in the bureau during his absence and have a report ready when he returned. He said that there were 23 offices, each with one or more separate appropriations for specific lines of work, each of which kept its own account of expenditures, and the chief of bureau was rarely able to get a satisfactory statement of the status of any appropriation. In the past it had occasionally happened that the expenditures exceeded the amounts appropriated by Congress, making it necessary to go before the Appropriations Committee of the House and ask for additional funds to cover the deficit. This practice had become so general throughout the government service that Congress had recently passed a law making it a criminal offense punishable by fine and imprisonment for any government official to enter into any contract obligation in excess of a specific appropriation. Dr. Galloway suspected that the accounts kept in the different offices of the bureau were not what they should be and he wanted me to find out. Before leaving he notified the chief of each office that I was authorized to inspect the account books and they were instructed to facilitate the examination. Immediately after he left I set about the examination,

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(1905)

E--522.

visiting each office in turn, interviewing the accountants, examining the account books, making shorthand notes of just what they showed, their form, how they were kept, the routine of handling papers, and made a note of the personality, experience, and apparent competency of the accountant. My experience with the old Dockery Commission was very useful. I liked the assignment, learned something about the work and personnel of each office in the bureau, and made the acquaintance of the chiefs of offices and many of the specialists and principal clerks. After completing my investigation I prepared a detailed report, giving facts and figures, pointing out glaring defects, and recommending the establishment of a central bureau accounting office through which all financial papers should pass, with provision for monthly financial statements showing the status of each appropriation for the chief of the office concerned and a summary for the chief of bureau. For the establishment of such a central office I specified the personnel and equipment required, submitted sample forms to be used, and estimated the financial saving/that could be expected to result.

I become Officer in Charge of Records.

When Dr. Galloway returned and saw the report he was much pleased with it and immediately appointed Dr. A. F. Woods, Assistant Chief, and Dr. A. J. Pieters, Chief of the Office of Seed Distribution, as a special committee to consider the report.

They promptly ^{agreed} ~~recommended~~ that the recommendations of the report should be put into effect and the new central office to be established be called the Office of Records. Dr. Galloway approved the recommendations, had me appointed chief of the new office,

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and my salary was advanced to \$1,800 per annum. The expense of the new office was to be assessed ^{proportionately} against the appropriations of the various offices. I now had the interesting but somewhat trying experience of organizing a new office, finding the personnel, and buying the office equipment needed. This preliminary work was completed within a few weeks, we were installed in a room on the ground floor, and the chiefs of the various offices were notified to turn over their accounting records to me. Opposition at once developed from all the clerks who had kept the accounts in the different offices and their chiefs began to come over to see Dr. Galloway about it, saying either that they could not run their offices without accounts or that the installation of the new system should be postponed. Among the first to do this were Dr. Woods and Dr. Pieters, who had approved my report and who were in charge of the largest appropriations in the bureau.

Dr. Galloway sent for me. They stated their objections and apprehensions. Dr. Galloway asked what I had to say. Without a moment's hesitation and very earnestly I said that the books in all the offices were so loosely kept that not a single chief of office knew the status of his appropriation and there was grave danger that some of the appropriations would be exceeded before the close of the fiscal year; that the Office of Records was organized and ready to take over the accounts from the offices immediately, one at a time; and that I would guarantee the new system would work satisfactorily as soon as it had the material to work with.

Dr. Galloway asked which office I wished to begin with first.

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Dr. Galloway asked which office I wished to begin with first.

I said that I would prefer to begin with the most important office in the bureau, that of Vegetable Physiology and Pathology under Dr. Woods, after which I would like to take over the records of the Office of Seed Distribution under Dr. Pieters because it had the largest appropriation in the bureau.

Dr. Woods smilingly said that of course he had approved the new plan but had not expected it would go into effect so promptly, and his accountant protested that to transfer the accounts before the close of the fiscal year would result in confusion and delay. I said, "Dr. Woods, I suspect there is another reason why your accountant does not wish to release the books of your office. The last time I looked at them and questioned the accountant I found that there were contracts aggregating \$30,000 and other items that had not been entered. If you ask for a statement of your appropriation balance now you will get an erroneous and misleading ~~statement~~ one. I propose to take over those accounts and all the memoranda not yet entered, transfer them to the new system item by item, and give you a complete and correct statement within a week." Dr. Woods smiled and asked when I wished to begin. "Right now," I said. "All right," said Dr. Woods,

Together we walked across to his office and he instructed his accountant to give me then and there all the books and papers relating to the accounts of his office. This was done rather reluctantly, but in a few minutes I had them in my arms and returned to my office. I at once set all the clerks to transcribing them on to the ~~and~~ card system I had devised. I explained to them how important it was to make a showing on this first set of ac-

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counts, because if we succeeded there would no excuse for further opposition, but if we blundered the whole scheme would fail. I joined in the work and set the pace. My principal bookkeeper came back in the evening and together we worked until midnight. We kept up the pace and before the end of the week we were able to prepare a complete and balanced statement, the first of its kind in the bureau. As the fiscal year was drawing to a close we had a tremendous task for a small and untrained force to transcribe and summarise the unsatisfactory accounts of all the appropriations of the bureau and get out a financial statement for each of the 23 offices and a bureau summary for the chief of bureau at the end of the month, but we did it. The office is still in existence and the system of accounts which I devised is still used in the Bureau of Plant Industry, the Bureau of Agricultural Economics, and perhaps other bureaus of the Agricultural Department.

Scientific Work of the Department.

Estimates of appropriation, requisitions for purchases, appointments and changes in grade of personnel, travel authorizations, vouchers in settlement of accounts, and anything affecting the appropriations of the bureau or expenditures therefrom passed over my desk and much of the correspondence relating thereto was prepared by me. At that time all travel reimbursement vouchers were required to be sworn to before a notary public. I still held my commission as a natary so that practically every technical member of the staff who had occasion to travel brought his reimbursement account to me for notari~~al~~ certificate or to discuss items of necessary expense that were

P 526 missing

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in the government service with an ideal of public service that was unknown before. Among the manifestations of this new spirit was a survey of the entire Federal service with a view to eliminating duplication, promoting economy and efficiency, and consolidations, reorganization, and coordination of services. Mr. Pinchot, Dr. Galloway, and other leaders in the Department of Agriculture, actively participated in the work of the Commission that was appointed by the President with Mr. Keep at its head to undertake the work. One branch of the work was assigned to me, that of classifying the personnel of the executive departments of the government as scientific, professional, clerical, and mechanical, to show the number of employes in each class and their salaries. I personally interviewed the chief clerks, appointment and accounting officers of all the departments and independent offices of the government at Washington and obtained their cooperation in collecting and assembling the data. Of necessity the classification of many employes had to be an arbitrary one, but when the data were supplied by the different branches of the government, I set to work to assemble them systematically and to analyze them to show approximately the percentage of the total number of employes in each of the four classes, with total and average salaries. This piece of work was highly commended by Mr. Pinchot and Dr. Galloway.

The Efficiency System.

During this period the manner of making promotions often came up for consideration. It had been the custom for many years in the Department of Agriculture to make promotions upon recommendation of supervising officials approved by the chiefs of

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bureaux. From time to time complaints of favoritism and partiality were made by employes who were dissatisfied with their failure to receive promotion, or jealous of a rival or competitor, or when a comparatively newcomer was promoted over the heads of older employes. There seemed to be a widespread feeling throughout the service that mere length of employment should count for more than special qualifications, exceptional ability, initiative, or efficiency. Considering the generally unsatisfactory situation, and believing that it could be remedied or at least improved, I drew up a form for rating the factors of efficiency of employes, to be filled in by supervising officials, ^{recommended} and the establishment of an efficiency board for the entire bureau to make up an efficiency register twice a year based on the individual ratings turned in by the various offices, all promotions to be made in the order of rank on the register as established by the board. The individual rating blank called for name, age, date of original appointment, dates of promotions, if any, present salary, ~~character of service~~ ^{quantity of work;} nature of work, ^{character of} service during the preceding six months, whether excellent, good, fair, or poor: whether employe had displayed ability or initiative, whether or not interested in his work; punctuality, attendance, number of days of annual and sick leave taken, health, whether or not employe was of good personality, was loyal, and could cooperate harmoniously and effectively with others; present value of services, whether recommended for promotion, immediately or at some future time, or whether employe could probably render better service on some other work or in some other branch of the bureau. The scheme was adopted and I served as a member of the efficiency board for several years. ^P The original scheme

the efficiency board for several years. The original scheme of the bureau. The scheme was adopted and I served as a member of better service on some other work or in some other branch of at some future time, or whether employee could probably render of services, whether recommended for promotion, immediately or operate harmoniously and effectively with others; present value or not employee was of good personality, was loyal, and could co- number of days of annual and sick leave taken, health, whether whether or not interested in his work; punctuality, attendance, fair, or poor: whether employee had displayed ability or initiative, service during the preceding six months, whether excellent, good, ent salary, ~~xxxxxxxxxxxx~~ nature of work, character of ^{quantity of work;} date of original appointment, dates of promotions, if any, present board. The individual rating blank called for name, age, be made in the order of rank on the register as established by ual ratings turned in by the various offices, all promotions to make up an efficiency register twice a year based on the individ- establishment of an efficiency board for the entire bureau to of employees, to be filled in by supervising officials, and the ^{recommended} proved, I drew up a form for rating the factors of efficiency tion, and believing that it could be remedied or at least im- or efficiency. Considering the generally unsatisfactory situa- more than special qualifications, exceptional ability, initiative, out the service that mere length of employment should count for of older employees. There seemed to be a widespread feeling through- for, or when a comparatively newcomer was promoted over the heads failure to receive promotion, or jealousy of a rival or competi- tially were made by employees who were dissatisfied with their bureaus. From time to time complaints of favoritism and par-

provided for sending a written notice to each employe of his rating, and why, because I felt that he was entitled to know. However, this feature met with opposition from rating officers and was abandoned the second year, mainly because ~~because of the~~ a red headed middle aged female employe had hysterics when she got a low rating on personality and threatened to sue her chief of division, the chief of bureau, and the members of the efficiency board for libel. She said she wanted it distinctly understood th~~a~~ her personality was above reproach, and to pacify her the chief of division had to apologize. On the whole the system served a very useful purpose in that it provided for a periodical, systematic revision of the efficiency register on a uniform basis by a disinterested efficiency board for the entire bureau, and required the supervising officials to periodically consider the qualifications, work, and relative merits of the employes under their immediate supervision. Many inequalities and injustices were corrected. The efficiency system inaugurated in the Bureau of Plant Industry was the subject of study by representatives of other bureaux and departments in Washington and no doubt had some influence in bringing about improvement in many branches of the government service. The efficiency register was found to be a most effective in preventing interference or undue influence on the part of Senators and Representatives in Congress who were importuned by employes or their relatives and friends ^{intercede} to ~~intervene~~ on their behalf. Quite often employes who resorted to this means of obtaining advancement were found to be among the least deserving in competition with others of the same grade, as shown by the efficiency register. I never knew of a Senator

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or Representative to persist in soliciting advancement for a constituent after being shown a carefully prepared efficiency register and after having explained to him the precautions that had been taken in its preparation to avoid injustice.

Grain Grading and Government Supervision.

My first mission in the field, that is, away from Washington, was in connection with the agitation for government supervision of the grading of grain at the principal markets. A uniform system of grading grain under federal supervision was advocated by a number of farm organizations and was opposed by the local chambers of commerce and boards of trade. It was alleged not only that different markets had different standards, ✓ but that many abuses had grown up in the "trade," such as that grain was systematically graded low when bought from the farmers and, after being manipulated in storage elevators, was later sold at a much higher grade, along with a nefarious system of docking for dirt and other foreign material, false scales, and the like. Mr. Carl S. Scofield of the Bureau of Plant Industry had specialized in the study of grain grading methods and his reports had generally favored the contentions of the grain dealers and exchanges to the effect that the alleged abuses were greatly exaggerated and that the existing system was satisfactory. But the agitation for reform continued to grow with every prospect of legislative action by Congress. Mr. John D. Shanahan, a grain dealer of ~~Duluth~~ Superior, Wisconsin, had attracted attention by his criticism of the system that had grown up at the grain markets and was being considered for employment to head up the ^{work on} grain grading ~~work~~ in the Bureau of Plant Industry

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statements that were made pro and con regarding the grain grad-
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buyers he wanted me to visit the Chicago Board of Trade and the
grain exchanges at Milwaukee, Duluth, and Minneapolis, and quiet-
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report to him what I found. I suggested that I knew absolutely
nothing about the organization or ~~p~~^ractices of the grain trade
except the reports of Mr. Scofield. He said that was the very rea-
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presentative and because he knew ~~th~~^{at} I would see things with
his eyes and without prejudice or bias. He gave me a letter of
authorization and credentials, and also notified the officials
of the various exchanges of my visit and its purpose.

Chicago.

With my wife I made the trip to Chicago, where we spent
several days, stopping at the old Palmer House. I met the var-
ious officials of the Board of Trade, was taken on the floor, saw
the manner in which grain samples were displayed and bids and ac-
ceptances made, was supplied with copies of their rules and regu-
lations, was taken to the railway yards at an early morning hour
and saw how the grain cars were opened and the grain sampled, was
shown through some of the larger elevators where I saw how the
grain was received, weighed, stored, and treated, and how it was
unloaded into barges and ships. The whole system was explained
to me and I made copious notes.

The soot, grime, slums, heat, and crowded streets of Chi-

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ceptances made, was supplied with copies of their rules and regu-
lations, was taken to the railway yards at an early morning hour
and saw how the grain cars were opened and the grain sampled, was
shown through some of the larger elevators where I saw how the
grain was received, weighed, stored, and treated, and how it was
unloaded into barges and ships. The whole system was explained
to me and I made copious notes.

The soot, grime, slums, heat, and crowded streets of Chi-

Chicago made a very unfavorable impression upon me. South Chicago, Halstead Street, and the stockyards ~~made me~~ filled me with horror and I felt that nothing could induce me to live in such a city. At odd times my wife and I took some street car rides, visited Jackson Park, and some of the public buildings, and evenings walked awhile on the streets or went to a theater. Mother

had notified her Brother, Frank Brown, of my visit to Chicago and asked him to call on me. One evening Uncle Frank, a son and two daughters, called at the hotel. Uncle Frank showed signs of dissipation, worked in a factory, and looked much older than I knew him to be. ^{out} The young people were bright and attractive, but all of them seemed to have lived very narrow lives. That was the only time I ever saw them.

Milwaukee.

We had a similar but short and pleasant visit to Milwaukee. Here, in addition to my investigation of the grain grading and elevator system, we visited a small amusement park on a high bluff overlooking Lake Michigan. We could not see across this great inland sea, of course, and it was as blue as the sky. We were much interested in the bridges we saw in Chicago and Milwaukee. They were hinged at one end and upon signal and the pulling of a lever ~~would~~ the other end would rise up in the air like a grotesque praying mantis, so that boats could pass. My wife, who was a fanatical teetotaler, refused to accompany me to one of the large breweries for which Milwaukee was famous. I thought the enormous vats or tanks and the automatic bottling and labeling machines were remarkable.

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Duluth.

Our next destination was Duluth, by night train. We admired the scenery about this city, its gushing copper colored streams, the wooded hills behind it, the great Lake in front of it, the lofty bridge, and the great grain elevators with ships alongside with great tubes through which the grain was poured into their holds. Some ^{of} the elevators held as much as a million bushels and a ship could be loaded within a few hours. I visited Superior just across the State line from Duluth and called at the office of Mr. Shanahan, but he was away at the time. I met with a courteous reception from the officials of the Duluth Exchange, but before I left fell into the hands of a most aggressive enemy of the system. He was fierce in his denunciation of the grain exchanges and elevators. At his urgent invitation I accompanied him to a small elevator on the outskirts of Superior. He pointed out that the grain in the cars that were unloading had been subjected to an arbitrary dockage at the time the grain was bought. The grain was dumped from the bottom of the cars into a pit from which it was elevated by endless belts to the top of the structure. We climbed to the top and my guide pointed out that as the grain flowed from the elevator tube it was subjected to a strong current of air from a large power driven fan which removed practically all the foreign material and light grains, which fell to one side to be sacked and sold for feed by the elevator company. The cleaned grain fell into automatic weighing machines and on the basis of the weights registered by them the settlement was made. In other words, the grain sold by the farmer was subjected to dockage twice, one an arbitrary average at the time he sold the grain to a local elevator and

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again upon delivery at a terminal elevator. In every case the dockage, screenings, that cost the elevator nothing but the operation of a fan to remove it and a machine to ~~sak~~ it, was sold by the elevator as feed. A curious thing about the practices that had developed at the grain markets to protect the dealers against possible loss at the expense of the growers was that the dealers defended them hotly as sanctioned by law. Evidently these practices had been in vogue so long that the dealers thought them perfectly right and just. In other words, time and long usage appears to give a moral sanction to an evil practice in the eyes of those who benefit from it.

Minneapolis.

From Duluth we went to Minneapolis where I ~~met~~ met with a cordial and courteous reception by the officials and members of the grain exchange who explained their system in great detail and showed me everything there was to be seen. In addition to the elevators we ~~visited~~ inspected the great flour mills at St. Paul that turn out 50,000 barrels of flour each per day, the largest in the world. I was especially interested in the great turbines that supplied the necessary power and in the automatic ~~a~~ machinery ~~on~~ the milling floors that required so little human supervision. We stopped at a nice hotel in Minneapolis with a French name and there I first tasted friend frogs legs. I did not like them very well because they seemed rather gelatinous. One evening we went out to ~~the~~ Lake Minnetonka and had a fine fish from the lake at a small restaurant. Another afternoon we visited the beautiful Minnehaha Falls, celebrated in Longfellow's Hiawatha. Just before sunset we stopped at

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a pavilion restaurant in the park. I have no recollection of what my wife ordered, but I shall never forget my order. It was broiled steak, hashed brown potatoes, hot rolls and butter, and coffee. We were the only guests and had to wait some time for the meal to be served. When it came I was astonished at the steak. It covered an enormous platter and was two inches thick, browned to a turn, floating in juice, seasoned just right, and tender as spring chicken. Never have I seen its like, and there was enough for a whole family. My recollection is that the charge for the steak and potatoes alone was 60 cents. Twenty years later such a steak would have been divided into four or five portions and the guests would have been charged from \$1.50 to \$2.50 per portion, depending on time and place.

~~My~~ We enjoyed the railway trip out and back. Inasmuch as my expenses that came within the fiscal regulations were paid by the government my only private expense for the trip was for my wife, so that I felt that we could afford to travel in a Pullman and patronize the diner. We were in good health, traveling in comfort, ^{and} interested in [^]delighted at all we saw. It was my wife's first ~~xxx~~ long trip away from Washington. I was keenly interested in the topography, vegetation, ~~and~~ farms and crops, all of which had a new meaning for me since I had become identified with the Department of Agriculture.

Upon my return to the office I submitted a lengthy report of what I had seen and heard and recommended government supervision. This report was referred to Mr. Shanahan who complimented me very highly. Shortly thereafter Congress authorized the establishment of government supervision of grain grading, an administrative office with Mr. John D. Shanahan as its chief was

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set up, and the foundation of a system of uniform grain grades was established. Some years later this office was transferred to the Office of Markets, which later became a part of the Bureau of Agricultural Economics.

~~Experimental~~ Tea Gardens at Summerville and
Charleston, S.C.

My second field trip was to Summerville and Charleston, South Carolina, to investigate and report upon the cooperative experiments in growing tea in this country. Dr. ^{Charles W.} Sheppard, a Massachusetts philanthropist, had established a tea garden at Summerville with the idea of founding an industry that would give employment to negro women and children. An old cotton and rice plantation about twelve miles out from Charleston had been converted into a tea plantation by a wealthy family under the name of the American Tea Growing Company. Both projects were operated in cooperation with the United States Department of Agriculture, represented by Dr. Rodney C. True, in charge of drug plant investigations, the department supplying tea curing machinery and other apparatus and the owners of the gardens paying for everything else and supplying the department with detailed data as to methods, management, and costs. [^] The tea garden at Summerville was an ornamental affair, small in extent, and the shrubs were kept in prime condition. I went first to Summerville and spent a day with Dr. Sheppard. He was an old gentleman, very enthusiastic about tea, who gave me complete information about the growing of the plants, the harvesting and curing of the leaves, and costs. He was very pessimistic about the industry in the United States. He had demonstrated that tea of the finest quality could be grown in his gardens, but had

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(1906)⁷

E-537.

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I reached Charleston on a Saturday morning in February. The sun was shining brightly, it was warm and pleasant and many shrubs were in full bloom. Upon inquiry I ascertained that the American Tea Growing Company was represented only by a young man who could be found at the Commercial Club, the other members of the family being in Europe. At 11 a.m. I called at the club and sent up my card. Word came back that the young man was still in bed, but would be down directly. I waited nearly an hour for him to appear. His face was flushed as if he had been drinking and when I stated my business he appeared to be very unhappy. As there was only one train that passed the station near the plantation, and that was an early morning one, we had to postpone our trip until the following morning, and it would be necessary to spend the night at the place. This, of course, was before the day of automobiles, and there was no telephone to the farm. I spent the afternoon exploring Charleston, the business section, the water front, ~~and~~ the residential section, the parks, and some old churches.

Sunday morning I met the young owner and a friend at the railway station. We rode in a nearly empty and very dirty day coach on a local train. The route lay through a low, flat, swampy section, overgrown with sedge grass, bushes and trees. In less

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than an hour we got out at a little shanty station at a country cross roads. There was no one to meet us, so we walked for about a mile over a sandy road to the plantation. I enjoyed the walk because of the primitive appearance of the country and the signs of ^rspring. Birds were twittering and singing and I saw and heard my old Texas favorites, the mocking bird, red bird, and field lark.

The plantation consisted of several hundred acres of ~~flat~~ fairly level but slightly undulating sandy land partly in pine timber, with a sluggish muddy creek running through it. On a knoll and commanding a fine view was a small house painted white which served as headquarters for the manager on his visits. Near by ~~k~~ in a grove of pine trees were fifteen or twenty single room pine shanties occupied by a colony of negroes, the descendants of former slaves, ignorant and primitive as savages. Most of them appeared to be ~~xxxx~~ good natured and contented to work for just enough to eat.

We spent the day inspecting a number of large fields of tea shrubs, which were thriving, about shoulder high, and bore a heavy crop of leaves. In the fields were several factory buildings, equipped with expensive drying and ~~smoking~~ rolling machines for preparing and curing the leaves. The manager said there was no difficulty in growing tea of the best quality, but the American public was prejudiced in favor of the Oriental teas to which they were accustomed, and the cost of labor and handling was prohibitive in competition with cheap Asiatic labor.

One of the negro women was requisitioned to prepare our meals. The fare was simple but very good. It consisted of fried chicken, delicious boiled rice, and cane syrup. There was no bread, or flour with which to make bread, nor any potatoes or

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(1907)

E--539.

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We spent the night at the plantation and returned to Charleston by the early morning train. The manager seemed greatly relieved when we separated. I had obtained from him the name of the bank and the names of firms with which the tea company did business. I looked these up and found that the company was badly in debt. The manager had answered my questions freely and I was loaded with data as to areas, quantities harvested, cost of production, and sales.

That night I boarded a Pullman on a through train from Florida for Washington. It was a long train and the Pullman I occupied was at the rear end. The weather that had been delightfully warm for several days turned suddenly cold during the night. There was not enough steam to reach the rear Pullman, and there was insufficient covering, so that I could not sleep for the cold. In the early morning hours we were in Virginia and the ground was covered with about six inches of snow. It was still snowing and the coachs were icy cold. By the time we reached Alexandria the snow was a foot deep and the passengers were complaining loudly of the cold.

My report on the plantations was to the effect that it was demonstrated that tea could be grown successfully in South Carolina, but it could not be done profitably in competition with the cheap labor of the Orient, that cooperation with Dr. Sheppard *was justified by the data made available by him,*

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(1907)

E--540.

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These two field trips were a great inspiration to me. I enjoyed the railway travel and always road~~d~~ with my eyes riveted on the landscape, observing the topography, the trees, grass, weeds, crops, color and character of soil, farm implements and methods of cultivation, farm buildings, as well as towns and cities, their houses, parks, public buildings, and factories. I enjoyed the novelty of rooming and eating in hotels. I enjoyed seeing and meeting strangers and hearing them talk, the snatches of conversation I overheard on the trains and in the hotels: and I enjoyed interviewing men who could tell me all about the subjects under investigation and who knew many things not to be found in books. I enjoyed making notes of what I saw and heard and later formulating a report of the essential facts as they appeared to me. And upon my return I ~~enjoyed~~ took up my office work with renewed interest and energy.

Office of Congressional Seed Distribution.

Dr. A.J. Pieters, chief of the Office of Congressional Seed Distribution when I entered the Bureau of Plant Industry in 1904, had resigned to go into the seed growing business in California. He was succeeded by Mr. Lisle Morrison. Mr. Morrison resigned in the spring of 1909 to go with the Braslan Seed Company at San Jose, California. I was appointed as his successor. I was much elated because it took me off of accounting work which I heartily disliked. Also there was an increase in salary.

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The Office of Seed Distribution had charge of what was called the Congressional distribution of free seed. Starting with a small appropriation of \$1,000 in 1840 "for the distribution of rare and valuable seeds, vines and plants, and the collection of agricultural statistics," it developed into a small section in the agricultural division of the Patent Office, and was transferred as the nucleus of the newly created Department of Agriculture in 1863; and in spite of continued opposition of seedsmen and much ridicule in the press it grew until in 1909 it had an appropriation of about \$250,000. The original intention of Congress was clearly to provide for the introduction and distribution of rare and valuable plants and seeds from foreign countries, especially those obtained and sent in by American Consuls, but as the appropriations increased it became impracticable to obtain sufficient material of superior character to supply the demands of Congress and the department was forced to purchase and distribute the common varieties of garden seed. The seed was purchased annually from seedsmen upon competitive bids for seed in stock or to be grown ^{on contract} during the growing season. All seed was thoroughly tested for viability and purity before acceptance, and occasionally fields growing under contract were inspected for condition and trueness to type. In addition, samples of every lot of seed accepted by the government were grown in the open field at the Arlington Experimental Farm along with samples of the same varieties purchased from the leading seedsmen without their knowledge.

When the total quantity of seeds that could be purchased with the appropriation available was known an estimate was made of the number of packets they would fill, at that time from 45

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to 50 million, and these were divided into quotas equally between Senators and Representatives. Then a contract was entered into for putting the seed in packets and the packets into envelopes ~~and~~ on which the franks were pasted. The addressed franks were supplied by Senators and Members of Congress with their own names printed conspicuously in the upper right hand corner. ~~It~~

It was quite a business to arrange for the purchase, testing, handling of many hundreds of tons of garden seed, have the seed delivered on time, that the contract for filling and mailing was properly completed, and settle the accounts for the purchase of the seed, freight bills, and the contract for filling and mailing. Congress ^{met} ~~meets~~ on the first Monday in December and often there was delay in obtaining from Senators and Representatives a sufficient number of addressed franks to keep the contractor and his large force employed. In the Gulf States the planting season begins in February, so that in order to have the seed reach the farmers in that region in time for planting it had to be mailed in Washington about the middle of January. About that time the Senators and Members from the Gulf States would begin to rush their orders in and from ^{then} ~~that time~~ until the first of April the pressure to get out the seeds was tremendous.

For packeting the seeds most ingenious automatic machines were used, one for each kind of seed. The seed was placed in bins and ~~fed~~ through a spout to the machine on the floor below. A bunch of packets was placed in a holder on each machine, one packet at a time was automatically slipped out and held open while a ~~charge~~ measured charge of seed entered, and then with a quick movement it passed under a gumming device that both gummed the flap and sealed it and dropped the packet into a bin.

(1909)

to 50 million, and these were divided into quotas equally between Senators and Representatives. Then a contract was entered into for putting the seed in packets and the packets into envelopes ~~xxxx~~ on which the franks were pasted. The addressed franks were supplied by Senators and Members of Congress with their own names printed conspicuously in the upper right hand corner. It was quite a business to arrange for the purchase, testing, handling of many hundreds of tons of garden seed, have the seed delivered on time, that the contract for filling and mailing was properly completed, and settle the accounts for the purchase of the seed, freight bills, and the contract for filling and mailing. Congress ~~meets~~ ^{met} on the first Monday in December and often there was delay in obtaining from Senators and Representatives a sufficient number of addressed franks to keep the contractor and his large force employed. In the Gulf States the planting season begins in February, so that in order to have the seed reach the farmers in that region in time for planting it had to be mailed in Washington about the middle of January. About that time the Senators and Members from the Gulf States would begin to rush their orders in and from ~~that time~~ ^{then} until the first of April the pressure to get out the seeds was tremendous. For packeting the seeds most ingenious automatic machines were used, one for each kind of seed. The seed was placed in bins and fed through a spout to the machine on the floor below. A bunch of packets was placed in a holder on each machine, one packet at a time was automatically slipped out and held open while a ~~measured~~ ^{measured} charge of seed entered, and then with a quick movement it passed under a gumming device that both gummed the flap and sealed it and dropped the packet into a bin.

These machines could readily be adjusted to divide a pound of seed equally among 50 to ¹⁰⁰⁰~~250~~ packets, depending on the kind and size of individual grains, whether beans, peas, or corn, or microscopic poppy or petunia seed. From the bins the seed packets dropped through chutes to the floor below. In front of the chute openings traveled an endless belt carrying a stream of empty envelopes. Girls sat on stools, one in front of each seed chute, and as the envelopes passed before them each would insert a packet of seed. On ~~reaching the~~ reaching the end of the series the envelopes were inspected to insure that * each contained the proper number of packets, and then passed through an automatic sealing machine. Franks were pasted on the envelopes before they were filled by girls who became very expert, some of them pasting from 20,000 to 30,000 each per ^a~~day~~. Every operation was subject to inspection so that mistakes were ~~ex-~~ceedingly rare. The newspaper jibes to the effect that sometimes turnip seed was sent ~~intended~~ out in packets instead of tomato or watermelon seed were, of course, wholly untrue; that is, it could not possibly happen in the ordinary routine: it could only happen by some one surrepticiously transferring seed packets from one bin to another, and that would have been exceedingly difficult to avoid detection by the inspectors.

One of the problems of the seed distribution was to send varieties suitable to the climate of particular regions and have the seed arrive in time for planting. The best that could be done was to divide the country into climatic zones and send only certain kinds of seen into each zone. For example, it would not do to send okra, collard, or watermelon seed to the northern

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tier of States, or sweet corn to the Gulf States, because only disappointment could be expected.

Throughout the entire period of the ~~xxxx~~ free seed distribution repeated efforts were made to have it discontinued. There was no more reason for the government buying and distributing common garden seed that could be purchased at any store than there was for a free distribution by the government of pins and needles. But Senators and Representatives believed that the sending of a package of free seed bearing his name on the outside of the envelope to each of his voting constituents was a gentle reminder that he was sedulously looking after thier interests and would be remembered at the next election. The Senators and Representatives from the farming districts increased the quantity of seed packages for distribution to their constituents by trading their quotas of printed documents and bulletins to city members for their seed quotas, and it was alleged that in closely contested districts Representatives apprehensive of defeat would sometimes buy the seed quotas of members who were willing to part with them for a monetary consideration. The seed distribution was not looked upon with favor by the Department of Agriculture and several tentative efforts were made to discontinue it. Secretary Wilson even went so far as to refuse one year to purchase or distribute seed. ~~xxxx~~ This was greeted with a howl from Congress and an appeal to the Attorney General, who held that the law was mandatory upon the Secretary of Agriculture and that if he failed to obey its terms he was subject to ^{no} ~~re~~val. For many years the department did not submit any estimate of appropriation for the seed distribution, but year after year either the Senate or the House of Represen-

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tatives restored the item in the appropriation bill. And so the Congressional distribution of free garden seed continued to grow until it was finally killed during the period of retrenchment following the great war.

Some years previously a portion of the seed distribution appropriation had been used for the purchase of seeds and plants in foreign countries. This branch of the distribution gradually developed into the Office of Foreign Seed and Plant Introduction with a special appropriation of its own and was for many years under the direction of Dr. David Fairchild. It was also the practice for many years to make moderate purchases of improved varieties of field seed, such as clover, alfalfa, and the grain sorghums of various kinds, which were distributed and records kept of the results under the direction of specialists. For a time a small part of the fund was used for experimental work in growing sugar beet seed. This project was successful, resulting in the production of high yielding strains, but was finally abandoned because it was demonstrated that an American sugar beet seed industry could not compete with the cheap labor and lower costs of Europe and Russia.

The last diversion of seed funds was for the establishment of Dutch bulb gardens in Whatcom County, Washington, with the object of establishing a new industry in this country. This project was also successful and during my administration of the seed office I promoted the development of this experimental garden to the utmost.

Seed Growing Contracts.

The contracts for seed for distribution included contracts for growing seed during the current season. These contracts

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Seed Growing Contracts.

The contracts for seed for distribution included contracts for growing seed during the current season. These contracts

were awarded upon competitive bids submitted by seedsmen and growers in the United States and Europe. Most of the bids were submitted by mail, but many of them were presented in person by representatives of seed firms and growers. The distribution also included Dutch bulbs, grapevines, and strawberry plants. During the four years I was in charge I thus had an opportunity to meet and become acquainted with many professional seed growers and seedsmen, including the very enterprising representatives of the Dutch and Belgian nurseries and bulb growers. From this experience I formed the opinion that the seed and nursery business is a highly competitive one and extremely secretive.

During my first year in the seed office I depended upon Mr. John W. Tracy, Sr., and his son John, both in the employ of the office, to make ~~field~~ inspections of fields growing under contract and to keep informed of what was taking place in the seed trade, regions in which seed was grown, their growers, crop conditions and prospects, probable deliveries under our contracts, and current wholesale growers' prices. Mr. Tracy, Sr., was an elderly man, still vigorous, who originated and superintended the trial grounds of D.M. Ferry & Co. at Detroit for many years. All his life was spent in growing and observing seeds and in testing varieties of vegetables and flowers. He had developed an uncanny sixth sense which enabled him to examine a sample of seed of almost any vegetable and say almost immediately about what percentage would grow. On the trial grounds he could tell with a high degree of certainty just what variety or strain a particular plant belonged to, whether the seed was from France, Germany, east of the Alleghenies, or the Pacific

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(1909-1912)

E--547.

Coast, and very often he would name the grower or seedsman responsible for it. He knew all sorts of tricks for making seed germinate quickly and he knew a great deal about the origin and history of many of the varieties then on the market. He originated the method of planting seed of the same varietal name from different seedsmen in the United States and Europe in parallel rows side by side and noting the differences. I often urged him to write down his observations on seed growing and varietal testing, but he always balked at the idea.

His son John, who had grown up in the seed business, supervised the seed warehouse and the packeting, and made frequent extended inspection trips. He had been employed by several seed firms at different times, was of an exceedingly curious and suspicious nature, and always returned from his trips full of gossip and hearsay as to what was going on in the seed trade. There were times when I suspected him of giving rein to his imagination, much as a child will sometimes do innocently and without malice. It was therefore necessary to make certain allowances in listening to his oral reports. Others who did not know of this ~~his~~ amiable characteristic were inclined to believe that he deliberately misrepresented the facts.

Studying Seeds.

Seeds are interesting things. Naturally I wished to learn all I could about them, how they were grown, how they behaved, and their relative value, and therefore I made a systematic study of them. I obtained samples of the seed of all kinds of vegetables, flowers, ~~cer~~^eals, grasses, and forage crops, examined them under the microscope, and tested them for germina-

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(1909-1913)

E--548.

tion, and examined closely the resulting embryo plants. I also made frequent visits to the seed testing laboratory and watched how seeds were tested for purity and viability, i.e., percentage of germination. From Mr. Edgar Brown, in charge of the laboratory, and his assistant, Mr. Goss, I learned much about the behavior of seed. I talked with Dr. J. W. T. Devel, who had made some experiments in shutting seeds up in chambers for different periods of time at different temperatures. He expressed the opinion that seeds are alive, that they breathe during their period of life, giving off carbon dioxid the same as animals, and when they cease to breathe they are dead. He also gave me the results obtained from ^hburring seeds in the ground at different depths and periods of time. I also read everything obtainable on the subject of seeds. I was much interested in a report published by the College of Agriculture ~~at~~ at Sydney, Australia, about the beginning of the century on the longevity of seeds. It described how half a century before the Director of Kew Gardens in London had sent a large collection of seeds in sealed bottles and labeled to the College, where they ~~were~~ remained unopened for fifty years. The bottles were opened and all seeds were tested in various ways. The only species that retained vitality were those having hard coated seeds, such as certain varieties of clover, alfalfa, and the acacias (locust trees and the like). All seeds of the common garden and field crops were dead. This and many other experiments have shown conclusively that the reports of finding wheat seed in the Egyptian tombs and mummy cases that would grow are incredible. As a matter of fact many thousands of germination tests have shown that most seeds retain their

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vitality/for a ~~xx~~ limited and rather definite period, after which they lose it at a fairly uniform but steadily increasing rate until it suddenly ceases, say from three to eight years, depending on the kind of seed. If the ^age of any kind of seed is known one ^a can predict with some degree of certainty about what percentage will germinate and about how long the seeds will retain sufficient vitality to sprout and grow.

Another ~~peculiar~~ interesting characteristic of seeds is their peculiar resting periods. Many kinds of seed will not sprout soon after they mature and if tested then none of them will grow, but if the test is made a few months later all or most of them will grow. A striking example of this characteristic is furnished by wild rice that grows in the streams and along the margins of lakes in Minnesota and nearby States. When white men first went to those regions they found that the Indians regularly went out in their canoes to gather the wild rice for food. Many botanists and plant breeders had tried to grow wild rice from seed with the idea of crossing it with domesticated varieties in the hope of obtaining a hardier strain. They never succeeded in getting the seed of wild rice to sprout until one of them pondered the life history of wild rice: how after the ice melts the plants come up in shallow water, grow, and mature seed; after the seed matures the stalk dies and falls and the seed is submerged; then the shallow water freezes and the seed is imprisoned at freezing temperature until the spring thaw. The botanist reasoned that if he could duplicate these conditions in the laboratory the seeds would grow, and they did.

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(1909-1913)

E--550.

of life and a baby plant inclosed in a beautiful case: and the infinite variety of form, color, and markings on such seed as beans, the reddish gold of wheat, the translucent red, amber, gold, white, and blue of maize: the striated appearance of ~~xxx~~ poppy, petunia, and tobacco seed which can be seen only with a microscope; and so on through a bewildering variety of color and form of these eggs or babies of the plant world. We have all heard that mustard seed is among the smallest in the world. This is not strictly true. For example a single ounce of tobacco seed is said to contain about four million individual seeds. The germination of seed is a constant miracle to an observer and the form of the young shoots and radicles as they emerge from the seed and change visibly from day to day, the appearance of the extremely delicate root hairs and the unfolding leaflets, are a source of delight.

The Arlington Experimental Farm.

During the first summer and autumn of 1909 I formed the habit of visiting the Arlington Experimental Farm opposite Washington on the Virginia side of the Potomac for the purpose of studying the trial plantings for the seed distribution. ^{hour} ~~Our~~ after hour I walked up and down the rows with Mr. Tracy, Sr., and had him point out the excellences and the defects, the comparative merits and differences of plants of the same varieties grown from seed obtained from different seedsmen and regions. Although I had grown up on a farm I had difficulty at first in distinguishing between related families such as radish, turnips, and mustard; lettuce and kale, cabbage and kohlrabi, parsnips and parsley, corn and sorghum, and in the early stages wheat, oats,

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(1909-1913)

E--551.

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Another interesting phase of the Arlington Farm was its soil management and the effect of different treatments through a series of years. Originally it was what remained of a vast brickyard from which the top soil and much of the subsoil had been removed, and it was about as hopeless a situation for a farm as could well be imagined, but it steadily improved through years of intelligent management, good tillage, cover crops, and fer-

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Seed and Bulb Index and Data.

In addition to the daily checking up on the progress of the seed distribution, I personally prepared an alphabetical card index of all the different varieties of vegetable and flower seed and of the names and addresses of the principal seed growers and firms in the United States and Europe from whom the seed might be obtained. Tables were prepared showing the number of pounds per bushel of the different kinds of seed, the number of seed packets of standard size per pound, the average number of individual seed per packet, the average number of seed that repeated tests indicated might be expected to germinate the first year, second year, maximum longevity, average planting dates in different regions of the United States, best depth of planting, number of days required for seed to germinate under favorable conditions, best spacing, quantity required for given length of row or area, number of days to maturity, and average yields. Complete data^a regarding the Congressional Distribution were compiled for the annual report to Congress.

Inspection Trips.

During the first year or two of my connection with the seed distribution work I depended upon the Tracies, Sr. and Jr., to visit the various seed firms and growers to whom contracts for supplying seed had been awarded, to check up on their seed stocks and trueness to type, ~~and~~ condition and prospects of fields grown for seed. This was deemed necessary in the case of seedsmen and their warehouses because it sometimes hap-

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Seed and Bulb Index and Data.

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pened that seedsmen bid for contracts without having stocks with which to fill them, or if prices advanced considerably they might allege an unforeseen shortage at time of delivery; and in the case of growers, if prices at time of harvest or ~~any~~ specified date of delivery were much higher than their contract called for they might, and sometimes did, allege a partial crop failure and inability to fulfill the contract. By inspecting the growing fields shortly before harvest and checking up on weather and crop reports the Seed Office not only kept informed of the true situation but ^{was} ~~were~~ in a position to enforce the government contract. Also field inspections enabled the office to judge of the trueness to type and varietal name of the crop and this information was extremely useful in preventing substitutions and as a guide in considering future bids from the same growers.

~~and Boston~~
Fitchburg, Mass., and Brooklyn, N.Y.

My first inspection trip in connection with the seed distribution was to the manufacturing plant at Fitchburg, Mass., of the firm that had the contract for packeting the seed for the next Congressional distribution, and a somewhat similar plant of a firm in Brooklyn, N.Y. These manufacturing plants were filled with automatic machinery for making containers, such as pastboard boxes and envelopes of various sizes, and for filling them with all sorts of materials, such as tacks, screws, pins, seeds, pills, and powders, that were a marvel to me. A single machine operating for hours with scarcely any human attention would create a continuous flow of containers, fill them with a uniform quantity, seal and count them, and do the work of 20, 50, or 100 hands, and a battery of these machines would do the

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work of a small army.

After inspecting the factory at Fitchburg a member of the firm took me in his automobile for a drive to the top of Wauch^usets Mountain. Automobiles were still rather new and not as dependable as they have since become. It was a hot afternoon and this one soon overheated, cl^ouds of steam issued hissing from the radiator, and we had difficulty in reaching the top. However, from the top we had a magnificent view over a broad stretch of country, which seemed hilly and mostly covered with forest and towns.

From Fitchburg I went to Boston for a day and called on the principal seedsmen. One of them was about to leave in his automobile ~~far~~ to rejoin his family in a cottage on Cape Cod, a distance of 60 or 80 miles, which to me at that time seemed a hazardous undertaking. ~~xHis son took me for an auto~~
His son, after showing me Fanuil Hall, Bunker Hill monument, and the State House, too me in an automobile for a tour of the magnificent city parking system which completely encircled the city and was the best I had seen up to that time. We also saw Cambridge and Lexington and the buildings and grounds of Harvard University.

My First Transcontinental Trip, ~~2022~~ 1911.

My first transcontinental trip was primarily to inspect the experimental bulb propagating garden at Bellingham, Washington, established by my predecessor, Dr. A. J. Pieters. Dr. Pieters was a Hollander by birth or descent and quite naturally was interested in Dutch bulbs, such as hyacinths, tulips, and narcissi, because the growing of these flowering bulbs in Holland is an

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I left Washington on April 9, 1911, made a most interesting trip by way of Chicago, Minneapolis, Fargo, Bozeman, the Yellowstone Park, and Butte, to Spokane, which was my first stop.

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to Fairfield, a small town about 33 miles southeast of Spokane, and spent the day on the ranch of Colonel Morrison. He had about 1,600 acres of rich land in cultivation, of which 1,200 acres were in garden peas for seed, 60 acres in turnips for seed, many acres in flowering annual plants for seed, and large orchards of young apple trees in remarkably good condition. The place was equipped with tractors and other large scale farming machinery, barns, seed warehouses, and a laboratory for the testing of sugar beets for seed in charge of a Mr. Reed of the Bureau of Plant Industry, the sugar beet seed project being a cooperative one. The object of the project was to demonstrate that sugar beet seed of excellent quality could be produced in the United States, thereby establishing a new industry and making the sugar beet growers of this country independent of foreign sources of seed supply. The demonstration ^{was} ~~wa~~ a complete success so far as quantity and quality of seed was concerned, but experience and exact records of cost also demonstrated that American growers could not compete with those of France, Germany, Checkoslovakia, Hungary, and Russia. As Congress refused to offset the low cost of foreign labor with an adequate tariff, probably because the beet sugar industry was opposed to paying a slightly higher price for American grown seed, the growing of such seed in this country languished and gradually died out.

Aside from the planting, cultivation, and harvesting of the beets and their seed, there were two other technical problems under investigation. One was the selection of the one year old beets to serve as the mother beets to produce seed the second year. This involved cutting out a small core of pulp from each beet and testing it chemically to determine its sugar content.

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Aside from the planting, cultivation, and harvesting of the beets and their seed, there were two other technical problems under investigation. One was the selection of the one year old beets to serve as the mother beets to produce seed the second year. This involved cutting out a small core of pulp from each beet and testing it chemically to determine its sugar content.

~~The second problem was that of~~ All roots testing below a certain sugar content were rejected and only those showing a higher sugar content were reserved as mother beets for planting. The second problem was that of so storing the selected mother beets that they would come through the winter in good condition for planting in the spring.

Another interesting project was under way by Dr. Townsend of the Bureau of Plant Industry. Dr. Townsend was trying to select out and fix a strain of high quality sugar beets that would produce seed with a single germ, so that the seed could be so spaced in planting, like other single germ seed planted in rows, ^{and} ~~that~~ the enormous work and expense of thinning the plants by hand would be eliminated. Sugar beet seed normally contain a number of germs (or seeds) embedded in a hard shell the size of a pea and when these shells (or seed as they are commonly regarded) are planted in drills the germs from a single shell sprout as a clump of little plants that must be thinned by hand so that single plants may develop to the desired size. Dr. Townsend had observed that occasionally beet seed were produced with less than the normal number of germs and his thought was that by growing mother beets from such seed he could ultimately succeed in fixing a strain that would produce only seed with a single germ. In this he had to acknowledge failure and the project was abandoned.

Adjoining Mr. Morrison's ranch an orchard company had purchased a tract of 800 acres which it was planting to apple trees, the orchard to be sold to small investors in blocks of five acres and given proper care for five years for the price of \$500 per acre. Mr. Morrison had the contract of planting

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the trees. With a caterpillar tractor, gang plows and harrows, and a small force of men, the planting was going forward at the rate of 100 acres a day. Mr. Morrison was planting 250 acres in apple trees on his own account. Some years later I asked about the outcome of ^{this} ~~these~~ scheme and was told that because of the overproduction of apples in the North West and ruinously low prices this and many other magnificent young orchards were destroyed in order that the land might be used for more profitable crops.

I thoroughly enjoyed my day at Fairfield. It was a balmy spring day in a beautiful open country and crops and vegetation were beginning to grow luxuriantly. The roadsides and fence-rows were bright with blooming wild roses, verbenas, and other wild flowers. In the late afternoon Mr. Morrison's son drove me by automobile to my hotel in Spokane.

At Spokane I saw beautiful falls and rapids in the ~~swift~~ river that flows clear, swift, and strong through the city. Equally interesting was a small public park near the hotel in which was a beautiful garden of old fashioned perennial flowers. The columbines were the finest I had seen anywhere except at Fairfield.

From Spokane westward through the mountains and forests I spent most of my time on the rear platform watching the wonderful panorama flit by. At one place in the mountains the train stopped to take on water from a tank. The surrounding country was a wilderness with not a single human habitation in sight. Seeing a beautiful shrub with attractive pink blossoms a short distance from the railway I descended from the rear platform

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(1911)

E--560.

and walked across to examine it. When I stooped to examine the blossoms more closely when, hearing a slight noise, I looked over my shoulder and was startled to see the train in motion and gathering speed every instant. I raced for the rear platform and caught it just in time. A few seconds more and I should have been left alone in the wilderness until the next train came through 12 or 24 hours later.

Seattle.

At Seattle I transferred to a small steamer that made the nightly trip on Puget Sound to Bellingham. This gave me several hours for sightseeing. I looked up my cousin, Fred Sully, whom I had not seen or heard from since his visit to us in Texas as a young man 33 years before. He had changed greatly, was now middle aged, in rather poor health, and his hair was turning gray. He took me to his neat little bungalow on a point of land that projects into the Sound opposite the business section and a water front of the city. There I met his wife, several daughters and one son, a little, wide-eyed, and very active specimen. All were very agreeable, except the boy who was badly spoiled and suffering for discipline. After a nice luncheon with the family Cousin Fred and one of his daughters accompanied me to the exposition grounds where I was amazed at the length and size of some of the fir logs used in the construction of some of the buildings. One of the larger of these buildings was constructed entirely of these logs with the bark still on them. I greatly admired also the glistening white range of peaks of the Olympic Mountains to the west of the city that stood out sharp and distinct against the sky whenever an opening appeared in the clouds.

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(1911)

E--561.

Bellingham.

The voyage up the Sound at night was enjoyable, although it was cool and not much could be seen except the rippling water and ~~xxx~~ glimpses of shores covered with heavy timber. The prettiest sight was in leaving the harbor and seeing the electric lights of the streets of Seattle. The city hugs the water front and is hilly so that the ~~xxx~~ strings of lights looked like a series of arches of a great bridge and brought to mind visions of fairyland.

Arrived at Bellingham I went to a hotel and telephoned to the bulb garden. The garden was several miles out on the shore of the Sound and there was no direct means of communication, except a bus ~~that~~ passed once or twice a day. I therefore rode ~~out~~ to the end of the car line and walked the rest of the distance. I preferred walking because it gave me an opportunity to leisurely examine the soil, the vegetation, and other objects of interest. I found the garden to be a narrow strip of ground sloping from the public road to the beach, with the house of the superintendent near the road and tool and packing sheds to one side. Most of the ground was planted to bulbs and most of them were in bloom, making a most brilliant spectacle. I visited the garden on several successive days in order to study the individual varieties and discuss with Mr. Jeunemann methods of growing and propagating the bulbs. *

The growing of narcissus and tulip bulbs is comparatively simple. Both increase by offsets or bulblets at the base of the mother bulbs. Hyacinths are different. Although they also form bulblets at the base they increase slowly in this manner. A highly technical process for hastening the multiplication of

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E--562.

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The following year I had a letter of authorization issued and instructed Mr. Jeunemann to proceed to Holland and secure all possible information on the methods and technique of the Dutch growers. He did so, remained abroad three months or more, obtained valuable information, but I judged from his letters and reports and his conversation after his return, that he was supremely unhappy during his entire stay in Holland. He did not

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like the flat country, the canals, the cloudy, cool, moist climate, the people, their language, customs, clothes, or their food. If he saw anything in Holland that pleased him he never mentioned it.

The soil around Bellingham is very fertile and when cleared and put in cultivation raises immense crops of small grain, the yields running as high as 60 to 80 bushels of wheat, 120 bushels of oats, and correspondingly high yields of clover, potatoes, and other crops per acre. However, it is or was covered with enormous trees and the surface is hummocky and full of depressions that hold water. Wild land near Bellingham was being held at \$500 per acre and the average cost of clearing and preparing it for cultivated crops was said to be about \$200 per acre.

Before leaving Bellingham I was taken on an automobile ride northward through Whatcom County to the Canadian boundary over a fairly good road through a rolling country. It is ~~clearly~~ a moist well watered country, especially adapted to growing trees and grass. Clover, especially, seemed to grow spontaneously and luxuriantly. It is therefore an excellent dairy region. In many places clear water flows steadily through the roadside ditches like small mountain streams and I was told that trout are sometimes caught in them. In several places we saw areas that had been cleared of trees and the enormous stumps blown up by dynamite, dragged by caterpillar tractors and cables to convenient points, and by means of derricks placed in huge piles 20 to 30 feet high, to be burned. At another place we crossed a peat swamp covered with shallow water and thousands of little islands of coal black peat. Along the international boundary a clear lane had been cut so that one could see through it for several

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miles in either direction, straight as the crow flies, across lowlands, over hills and up the slopes of distant mountains. On one side was Canada and on the other the United States. At points on the line where public roads crossed were small stations for customs officials.

Portland.

April 18th was spent in Portland, Oregon, between trains, visiting the establishments of commercial seedsmen. Showers and sunshine alternated, which is said to be so characteristic of the climate that the people seem not to pay any attention to the showers. Portland is a beautiful city on several hills overlooking the great river and across intervening wooded country to snowclad mountains. The climate seems to be especially favorable for roses which are to be seen growing everywhere, in all the front and backyards of private residences, in the parks, and along the sidewalks in the streets. Many of them were in full bloom and made an alluring spectacle as if the city were garlanded with roses.

Chico, California.

South from Portland we passed through the Rogue River Valley, famed for its marvelous apples and luxuriant crops of alfalfa, and on through great mountains and forests, crossing the boundary between Oregon and California, past Magestic Mount Shasta, and down into the Sacramento Valley.

On the morning of April 20th I reached Chico. Here for the first time on the trip an overcoat was not necessary. My first impression of Chico was one of surprise at the number of semi-tropical plants growing in the open. In the front yards and parks of the city were orange trees bearing ripe fruit, large palms

miles in either direction, straight as the crow flies, across lowlands, over hills and up the slopes of distant mountains. On one side was Canada and on the other the United States. At points on the line where public roads crossed were small stations for customs officials.

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(1911)

E--565.

30 to 40 feet high, and roses in full bloom, some of them climbing to the tops of houses and trees. About three miles from the city is the Plant Introduction Garden of the Bureau of Plant Industry. This is one of several maintained by the U.S. Department of Agriculture to which are sent the seeds and cuttings of plants obtained and forwarded by plant explorers from all parts of the world, to be planted, observed, propagated, and distributed to growers in regions where they are likely to thrive. I checked up on the organization, personnel, and records of the garden, and inspected the various buildings and equipment and the plantings of introduced plants, of which there were many species and varieties, all well cared for and prospering. ~~Afterxxxxxxx~~

After completing my official inspection on the second day I visited the Bidwell estate near Chico. It is a beautiful estate with a clear stream of ~~x~~water flowing through it, many magnificent specimens of introduced trees, vines and plants, and many magnificent "valley" oaks, including the famous Hooker Oak, said to be the largest in the world. We drove up into Peace Canon several miles and saw a gold mining dredge at work.

This dredge was simply a big, heavy flatboat or scow with a steam engine, ~~xxx~~ derrick, steam shovel, pump, and sluice boxes. It had dredged its way up Butte Creek, digging its own channel up stream and into the banks of either side, floating on the water which filled the holes and channels it dug, scooping up enormous quantities of dirt and rock and depositing the material in the sluice boxes on which streams of water were pumped, washing out the rocks and soil behind and depositing the gold on cleats at the bottom of the sluice boxes. With a crew of three or four men this dredge was taking out about \$1,300 a month working over sbil

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(1911)

E--566.

that had previously been worked over with pick and shovel first by the original 49'ers and then in later years by successive swarms of individual prospectors and bands of Chinese laborers. The dredge left a trail of stony desolation in its wake. It was only a few miles from Chico that placer gold was originally discovered in the mill race of Captain ^{Johann} Suter, whom family tradition says was a cousin of my grandmother Hartman, to whom he wrote letters and sent specimens of gold. She and her husband even went so far as to sell their farm in Illinois and prepare to make the long trek across the plains to join him when reports of hardships and Indian massacres came drifting back and grandfather decided that the risk was too great for the wife and little children.

We stopped at the plant of the Diamond Match Factory near Chico. To me it seemed large enough to supply the world with matches, and yet it was only one of several factories belonging to the company in the United States. The buildings covered several acres of ground and were surrounded by flowering shrubs and fields of alfalfa. The company owned its own timber lands and a railway to bring the logs down from the mountain 40 or 50 miles distant. Once a day a long heavily loaded train came down the slope, mainly by gravity, piled high with logs that were fed into giant machines and came out as matches.

Sacramento.

The country between Chico and Sacramento is a fairly flat, level prairie, cut up into large ranches, and but few buildings were in sight from the train. There were many picturesque specimens of the characteristic valley oak and acres of the

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golden California poppy, which were especially fine around Chico. I had no business in Sacramento, but a short stop between trains enabled me to see the State capitol building and get a birdseye view of some of the business streets. It was midday and for the first time in the year the sun felt hot.

San Francisco.

From Sacramento the railway follows the river of the same name, but mountains are in sight east and west all the way. Near Davis is the State Agricultural Experiment Station and experimental fields, fine farms and vineyards were to be seen. In the late afternoon we reached Oakland and crossed the magnificent bay on a large ferry boat.

I spent most of the following day, Sunday, inspecting Golden Gate Park, which was especially interesting not only because of its collections of trees and plants but because it was ~~xxx~~ created out of a section of shifting sand dunes by John MacLaren, to whom I had a letter of introduction. It is now one of the most beautiful parks in the world, landscaped with artificial lakes and cascades, vistas of green sward and stately eucalyptus trees, and a great variety of other tree species and ornamental shrubs and plants. Of course, I saw the Golden Gate narrows, the fortifications, and the Seal House on the ocean side with seals disporting on the rocks and in the surf below.

While in San Francisco I called at the various seed establishments, including those of the C.C. Morse Seed Company and the Pacific Seed Company. Also I got into communication with Mr. Rixford, a former editor but at that time collaborating with the Bureau of Plant Industry in developing the Smyrna fig industry.

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Niles.

The following day, in company with Mr. Rixford, I visited Niles, which is across the bay and about an hour's ride by train from the city. The country between was flat and given up to market gardens and we saw great quantities of rhubarb, strawberries, onions, lettuce, peas, potatoes, and other garden vegetables. Around Niles were many small orchards of oranges, walnuts, and vineyards, and large orchards of olives and apricots. We walked from the town of Niles to the grounds of the California Nursery Company, which had about 600 acres of land and shipped out 300 carloads of nursery stock annually, mostly eucalyptus, camelias, camphor trees, accacias, carobs, cherries, magnolias, orange, fig, apricot, prune, pepper, peach, plum, and walnut trees, with a full assortment of vines and ornamental shrubs.

While at Niles Mr. Rixford^d explained how figs are fertilized by the small wasplike insect, Blastophaga, which was successfully introduced into this country from Italy by Mr. Walter T. Swingle who sent them in a cigar box by mail, after all previous attempts to get them in alive had failed. He spoke of the distribution of 14,000 Smyrna fig trees in 1880 by the San Francisco Bulletin and the disappointment of those who received them when the trees failed to hold their fruit because of lack of pollination. The successful introduction of the Blastophaga insect at an expense of a few cents postage ~~resulted in~~ ^{and the} establishment of a new Smyrna fig industry in California was one of the romances of American horticulture.

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San Francisco Again.

From Niles I returned to San Francisco again. Early mornings and evenings outside of business hours I spent walking the streets and exploring. I followed the water front around and strolled through Chinatown, much interested in the strange wares and people I saw. From my hotel window on the seventh floor I could see over a goodly portion of the city. There were still many vacant lots and exposed foundations of buildings that had been destroyed by the great earthquake. Before coming to San Francisco a man in a smoking compartment of a Pullman had told me about the hotel at which I was stopping, said to be the best in the city. Among other attractions he said the hotel had provided for the comfort and entertainment of its unaccompanied male guests by attaching to the telephone in each room the visiting card of an unattached lady giving her name and telephone number. If the guest desired female companionship all he had to do was to call up the lady's number. Sure enough, at the side of the telephone in my room was a card bearing the name of Miss Viola and her telephone number. I thought this an excellent arrangement, very much wished to see what Miss Viola looked like, but was deterred from calling her up by conventional considerations and the thought that ~~she~~ her visit might prove to be an expensive one.

San Jose.

The trip from San Francisco to San Jose was made in the evening by train. I was met at the station by my old friend, Lisle Morrison, my predecessor in the seed distribution office and then employed as manager for the Braslan Seed Company. He accompanied me to a hotel and outlined a program for the following

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The next morning at an early hour Mr. Morrison called for me in a large touring car and together with Mrs. Braslan, widow of the former head of the firm, Mr. Edmondson, sales manager, Mr. Pieper, brother of Mrs. Braslan and a silent partner in the company, and an employe who operated the machine as chauffer, we spent the forenoon inspecting two large seed ranches near Gilroy in the Santa Clara Valley. Here we saw many hundreds of acres in lettuce, onions, radish, ~~xxxxxx~~ parsnips, and other vegetables grown for seed.

At noon we gathered around the table at the residence of Mrs. Braslan. It was a large dining room with a long table in the center set with ~~special~~ California dishes for my especial benefit. The special dish in which all seemed to take pride was a large platter piled high with globe artichokes. I looked with astonishment and apprehension at this dish because I particularly dislike globe artichokes--they are so green, soft, stringy, and slimy, have to be ~~take~~ taken with the fingers, must be drenched with butter or olive oil, and have such a vile taste. ~~xxxxxxx~~ My repugnance was so great that in spite of my embarrassment I had to confess that I had never acquired a taste for artichokes, did not like them, and begged to be excused from eating them. Everyone seemed disappointed and a little bewildered.

In the afternoon we passed through Alta Vista, Menlo Park, and Red Wood on a visit to the fertile 800-acre Sweeny seed ranch, all planted to radish, onions, and lettuce for seed. The country between San Jose and Red Wood looked like a garden, with fine roads that were kept sprinkled to lay the dust, modern

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(1911)

E--571.

dwelling, a beautiful schoolhouse in the country with landscaped grounds, and thousands of acres of prune and apricot orchards in the finest state of cultivation, with the trunks of the trees whitewashed from the ground to the first limbs so that they looked like serried ranks of armies of soldiers in white trousers.

The Tule Islands.

The next day, April 27, Mr. Morrison took me to the remarkable tule islands in the Sacramento and San Joaquin Rivers above Antioch. The trip from the mainland to the islands, a distance of fifteen miles, was made in a launch. These islands were formed entirely of tule reeds that have accumulated through the ages. The islands contain very little sand or other mineral matter. In fact, the soil looks like well rotted stable manure and will take fire and burn if a match is applied to it. It is so loose and light that horses used in cultivation have to be shod with a special shoe 10 or 12 inches in diameter to enable them to walk on the surface. Very shallow cultivation is practiced to prevent the soil from blowing away. The surface of the islands is perfectly flat and in some cases below the level of the river, being protected by embankments of silt dredged from the river bottom. Occasionally these dikes break or a section of an island slides into the river and the entire island becomes submerged to a depth of several feet. The soil is so loose and spongy that it will shake and quiver for a space of many feet if a man jumps on it. In walking over the ground it feels like layers of soft thick rugs. The islands range in size from a few to several thousand acres.

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The soil is extremely fertile and enormous crops of onions, asparagus, and potatoes are grown for the Pacific Coast markets, besides enormous seed crops of onion, radish, turnip, parsnip, and carrot. These crops are usually grown under contract by companies of Japanese. The head man rents the land, supplies labor and tools, and contracts to grow a specified quantity of seed or of vegetables. He is usually an exceptionally bright, intelligent, shrewd Japanese who can speak English, which very few of the Japanese and Chinese laborers under him can do. They live in camps on the islands and sleep in large bunk houses of rough boards. The head contractor keeps them supplied with their native saki, fermented rice spirits or wine, of which they are fond. Each camp is equipped with an improvised shower bath and all take a bath at the close of the day's work. Their food is mostly rice, beans, vegetables, and fish, cooked in large iron kettles on an open hearth similar to a blacksmith's forge. Very few women are on the islands, usually not more than two at each camp, and they are employed in cooking, at least in the day time.

Owing to the forcing conditions that prevail on the islands weeds sprout and grow in a night. Most of the labor is done by hand, as it is impracticable to use mechanical cultivators because of the loose character of the soil. In weeding the men work in gangs of 50 to 100 on their knees, each man taking two rows. Each gang has a leader who sets the pace which the others are expected to keep up. No where else in the world have I seen men work so diligently as these weeding gangs. They were so industrious and intent on keeping up with their leader that they scarcely looked up, and there was no intermission except for the noon meal.

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We circled several islands in the launch, stopping at landings to walk out into the fields. We saw thousands of acres in vegetables and seed crops, all looking in perfect condition and promising enormous yields. In the late afternoon we crossed to the mainland where Mr. Morrison and I separated, and where I spent the night.

Fresno.

The next morning I went to Fresno where I called at the Fancher Creek Nursery. I especially wished to meet Mr. ~~Frank~~ George Roeding, the founder of the nursery, but he was in San Francisco that day. His secretary informed me that they expected to sell about 30,000 Calimyrna fig trees that season: that in 1909 the company sold 187 tons of Smyrna figs, and 125 tons in 1910. He said that the total crop of figs grown in California at that time was about 350 tons, of which approximately one-half was grown by the Fancher Creek Nursery Co. The manager took me in an automobile about the ~~place~~ establishment of the nursery company and then to the 600 acre home place of Mr. Roeding, which was mostly in bearing fig, olive, and walnut orchards and vineyards, all in the finest condition. A beautiful mountain stream ran through the place and supplied water for irrigation. I was interested in noting the effectiveness of smudge protection against frost. In a 250 acre vineyard of Thompson's Seedless about ten acres had been treated with smudge on one or two nights in the late spring when frost threatened. The smudge was made by burning straw, chips and other combustible trash in open metal buckets. This portion of the vineyard was not injured by the frost, while throughout the remainder the buds were blighted. The mana-

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The next morning I went to Fresno where I called at the Rancher Creek Nursery. I especially wished to meet Mr. George Roeding, the founder of the nursery, but he was in San Francisco that day. His secretary informed me that they expected to sell about 30,000 California fig trees that season: that in 1909 the company sold 187 tons of Smyrna figs, and 125 tons in 1910. He said that the total crop of figs grown in California at that time was about 550 tons, of which approximately one-half was grown by the Rancher Creek Nursery Co. The manager took me in an automobile about the ~~nix~~ establishment of the nursery company and then to the 600 acre home place of Mr. Roeding, which was mostly in bearing fig, olive, and walnut orchards and vineyards, all in the finest condition. A beautiful mountain stream ran through the place and supplied water for irrigation. I was interested in noting the effectiveness of smudge protection against frost. In a 250 acre vineyard of Thompson's Seedless about ten acres had been treated with smudge on one or two nights in the late spring when frost threatened. The smudge was made by burning straw, chips and other combustible trash in open metal buckets. This portion of the vineyard was not injured by the frost, while throughout the remainder the buds were blighted. The man-

(1911)

E 574-574

ger said the cost of smudging was nominal and they were planning to protect the entire vineyard in future. The large vineyard was tile-drained to lower the water table, the surplus water draining into wells near the stream. The stream and water wheels were utilized to pump water out of the wells, so that the whole arrangement worked automatically. The company had very complete equipment of tools, implements, barns, warehouses, packing sheds, shops, an outfit for sawing up trees for fuel, and the like. The farm residence was a large modern house situated on a knoll and surrounded by ornamental plantings of palms, trees, shrubs and roses, and the cottage of the foreman was almost covered with wisteria in full bloom.

The country between Mr. Roeding's place and Fresno was planted with large orchards of olives, apricots, figs, and vineyards. It is a beautiful and prosperous looking country with large ranches, fine houses, and the roadsides were planted with palms, eucalyptus and cedar trees. There were also a number of large wineries. This, the 28th day of April, was Raisin Day in Fresno and fruit stands, markets, and shop windows were piled high with enormous bunches of delicious looking raisins, the largest I have seen.

San Jose, Coyote, Gilroy, Hollister,
and San Juan.

The next morning I was met at the station in San Jose by Mr. Morrison and party and together we proceeded to Hollister, making short stops en route at seed ranches near Coyote and Gilroy. Beyond Gilroy the valley broadens out considerably and appears to be 15 to 20 miles across between the mountains. The

cultivated land was almost entirely planted to seed crops. Thousands of acres were not cultivated because of the presence of alkali and were overgrown with a yellow flowered daisy, probably *Layia platyglossa*. Before reaching Hollister we passed a tract of marsh land with a shallow lake in the center. A few miles beyond Hollister we saw the seed ranch of the C.C. Morse Seed Company, one of the largest and best equipped in the United States, and adjoining it was the seed ranch of the Pieters-Wheeler Company, on which we saw 50 acres of sweet peas in full bloom. At another seed ranch of the Morse Company a party of nearly a hundred Hindo laborers were unpacking their scanty belongings. Hindo labor was a new experiment and their efficiency was yet to be demonstrated. They varied in appearance and type from small men and black as negroes to tall, slender, delicate men with brown complexions. Among them were a few fine looking large men with long black beards and straight, clean cut European features. On the whole they were a better looking lot of men than an equal number of Chinese or Japanese laborers. They brought with them their own bedding and cooking utensils and maintained the traditional practices of their caste. When I had them line up for a snapshot photograph the leader refused to stand with them or be included in the group picture, but did not object to having his picture taken standing alone.

The seed ranches depended almost entirely upon Japanese labor which was usually very efficient. Many men with whom I talked were emphatic in condemning the Japanese. Apparently their dislike was due to the fact that the Japanese are intelligent and too well organized to be imposed upon: they feed and cloth themselves, handle all their own business, have their own

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(1911)

E--576.

agents, merchants, and bankers, are economical and do not spend any more money in this country than they have to: they make no permanent investments and do not help build up the country: and, lastly, they work all the time for lower wages than Americans and have a lower standard of living. I frequently heard complaints that the Japanese did not live up to their contracts, but several of the seedsmen assured me that if the Japanese were treated fairly they ~~were~~ same as white men they are entirely dependable and make excellent workmen. It was quite evident, however, that without the Japanese it would have been impossible for the ranchmen in California to secure sufficient labor to operate their ranches without importing it from some outside territory.

On the return trip, between San Juan and Gilroy, we passed the ranch of Miller & Lux, said to be the largest in California, with over half a million head of cattle. The ranch is in a valley but extends back for many miles into the foothills and mountains.

On one of the seed ranches, as we were driving between ^{the} cultivated fields we met a Chinaman driving a fine team of horses. Automobiles were yet so uncommon that horses were not used to them and this team showed every indication of running away. The Chinese driver let the reins hang loose and made no attempt to control the horses, but simply sat on the wagon seat with a silly smile on his face. To avert an accident our chauffeur stopped the engine until the team passed.

Pismo and Arroyo Grande.

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high and rolling and drops perpendicularly at the beach, which is several hundred feet wide, hard and smooth, and when the tide is out makes a beautiful drive for twenty miles or more along the coast. Pismo was little more than a small railway station and a summer resort hotel. The hotel was a big, rambling wooden structure facing the ocean and behind it was a large flower garden flanked with small wooden one and two room cabins covered with flowering vines. A visitor had the choice of a room in the main building or one of these cabins. I occupied one of the little cabins and enjoyed the privacy, the cheerful view of the flower garden, and the thunder of the surf tumbling and roaring on the beach.

Arroyo Grande.

The next morning Miss Eva Johansen, a girl of about fourteen, with horse and buggy drove me to her father's place near Arroyo Grande. He had a small seed farm between Arroyo Grande and some high hills. He had several acres of verbenas, dianthus, sweet peas, carnations, and salsify. These were in bloom and were a pretty sight. His wife's father was a preacher and the family came from Denmark many years before and had lived on this farm ever since without much contact with the outer world so that they still retained many of their old country ways.

In the afternoon we drove a few miles to the seed farm of Mr. Routzahn near Oceano. On the way we passed a remarkable hedge or windbreak of Monterey Cypress (*Macrocarpa*) which was trimmed as an upright wall to a height of forty feet and was so dense and impenetrable that a bird could not get through.

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Mr. Routsahn had a beautiful home surrounded by ornamental palms, trees, shrubs, vines, and flowering plants, and many

acres of annual flowers for seed, such as sweet peas, dianthus, verbenas, ^{sch}escholtzia, nasturtium, and other flowers. The Arroya Grande is a small stream that flows out of the mountains and into the sea near Pizmo. The heavy rains of the preceding January and February caused it to become a raging torrent and near Mr. ^{Routzahn's}~~Johansen's~~ place it changed its course and utterly destroyed many acres of cultivated fields. On the ^{Routzahn}~~Johansen~~ place the flood did great damage, cutting out fruit trees and large palms, washing away buildings, implements and tools, destroying several acres of good ground and leaving a heavy deposit of silt, stone, and debris on the lower portion of the farm. Mr. Routzahn said that the previous year he had shipped over 400,000 pounds of sweet pea seed, £ 35,000 pounds of nasturtium seed, and seed of other varieties in proportion.

Leaving Oceano late in the afternoon we drove through a high section of rolling and rounded sand dunes covered with wire grass, lupines, and San Juan flowers (*Baeria gracilis*). In many places the wind had blown great cavities in the sand. We saw several tracts planted to young eucalyptus trees, some horse beans which seemed to thrive in the cool moist climate along the coast, and near Guadalupe were large fields of sugar beets

Lompoc, May 1 and 2.

To reach Lompoc it is necessary to change cars at Surf, which is simply a way station with no hotel, from which a branch line runs to Lompoc. Here I met the secretary of the Lompoc Produce and Real Estate Company who said that the previous year his company shipped out 300 cars of Australian brown onions, 1,000 sacks of potatoes, and about 4,000,000 pounds of Triest

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Pompeo, May 1 and 2.

To reach Pompeo it is necessary to change cars at Surf, which is simply a way station with no hotel, from which a branch line runs to Pompeo. Here I met the secretary of the Pompeo Produce and Real Estate Company who said that the previous year his company shipped out 500 cars of Australian brown onions, 1,000 sacks of potatoes, and about 4,000,000 pounds of Triest

brown mustard seed, and that his firm grew about two-thirds of all the green podded beans in California. With the president and manager of the company I inspected the great warehouses and equipment for handling produce and seeds.

Next I visited Floradale, the new seed farm of the W. Atlee Burpee Company of Philadelphia, which was in charge of Mr. Lonsdale. He was growing many varieties of lovely sweet peas, pansies, and other flowering plants.

Lompoc is situated in a lovely valley about twelve miles broad through which flows the Santa Inez River, with beautiful mountains on all sides except towards the ocean on the west. We crossed over to the eastern side of the valley and I saw several thousand acres planted to beans, sugar beets, and mustard, which last was five feet high and in full bloom. Along the roads and between farms were rows of stately eucalyptus trees. These grow rapidly, often faster than cottonwoods and poplars in the east, and when from 10 to 20 inches in diameter and perhaps 80 feet high they are cut for fuel. Sprouts immediately spring up from the stumps and quickly replace the original trees. At the end of the valley we rode up into the hills from which once could see as far as the ocean. To the north one could see many derricks of the Union Oil Company whose wells were producing profitably. The hills were nothing more than great sand dunes covered with scrubby shrubs and coarse grass. In many places the dunes were being cleared of brush and set to eucalyptus trees which were thriving and which should make a magnificent forest. The hills were brilliant with many wild flowers, a dozen or more species being represented.

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Santa Barbara.

The daylight ride from Surf to Santa Barbara along the top of the high cliffs overlooking the ocean was especially interesting. A heavy fog swept in off the ocean and rolled up into the mountains at Surf. Soon after leaving Surf the sun came out and disclosed scenery of indescribable beauty. The railway follows the coast and is from 100 to 200 feet above the beach on which the surf beats and breaks continuously. The cliffs have been worn by the elements for ages and some of them are most fantastic in shape. A portion of the country is almost pure sand piled high in rounded dunes and sculptured in places by wind and rain. Many of them were carpeted with brilliant hued flowers. Most of the country was uninhabited and only in the small valleys protected from the ocean winds by high hills were small farms and orchards to be seen. As the train approached Santa Barbara orchards of walnut and fields of barley became numerous.

I stopped at the Potter Hotel, said to be the largest on the Pacific Coast. Here for the first time I encountered the official hotel host~~e~~, that is, an employe whose business it is to welcome the incoming guests. This one was a tall, handsome, extremely well dressed gentleman who stepped briskly up to each new arrival as he entered the hotel lobby, and with a smile extended his hand and greeted him with a courteous and cheerful welcome to the hotel, assuring him that the hotel management was glad to have him with them and that everything in their power would be done to contribute to his comfort, convenience, and happiness. And it was. The broad veranda was draped and screened by masses of dark red Bougainvillea blossoms. Around the hotel were thirty acres of flowering plants, shrubs and trees, especially

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palms, geraniums, and lantanas. Attached to the grounds was a large propagating house in charge of a professional florist. In front of the hotel were several acres of giant red geraniums, and in a low place to one side were several acres of calla lilies. Mesembrianthemums with their pretty pink blossoms were used ~~fre~~ freely as a ground cover. Along the beach in front of the hotel was an avenue of magnificent palms.

Santa Barbara was the first town I saw south of San Francisco to make use of geraniums for hedges and carpets of mesembrianthemums in lieu of grassy lawns. The geraniums grew higher than a man's head and the hedges were a solid mass of bloom. The mesembrianthemums seemed to be able to grow in pure sand and furnished a dense matting of pink, purple, yellow, or white daisy-like blossoms. The parks and yards were planted with eucalyptus and camphor trees, giant ~~am~~ araucarias, palms, and conifers. Fuchsias grew 15 to 20 feet high. The whole city was like a garden and ablaze with the color of luxuriant flowers. Running parallel with the coast and just back of the city is a range of low rugged mountains, dark in color and almost barren of vegetation.

I called at the nursery of the Southern California Acclimatization Association of which Dr. Franeschi was president, but he was away. I was shown over the nurseries by the general manager, Mr. Riedel. The nursery was a small one near the railway station and badly overcrowded. It contained many semitropical plants, especially from Australia. Several hours were spent in examining the plants in the public park and in a visit to the old monastery on the edge of the city. There were a number of tourists at the monastery. Two young men approached me with smiling

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Just before sundown I sat on the hotel veranda watching the great waves come rolling in and drenching the pier ~~when~~ with spurts of spray when they struck with a resounding thud. Occasionally my eyes wandered out to the horizon and I became interested in watching ~~xxxxxxxx~~ the masts of a schooner far out. The hull was not visible and only the masts could be seen. They rose and fell with the heaving swell of the ocean and leaned first far over to one side and then swung quickly over to the otherside like a pendulum and I could imagine how violent the motion must be on the boat itself.

Carpenteria.

The next morning Mr. Henry Fish and his son Henry, Jr., of the firm of Henry Fish & Son, who specialized on the growing of beans for seed, called for me with a new and very shiny automobile. The son was driving. We passed the beautiful public park, the winter home of Peter Henderson, the well known seedsman, and on out to the Hope Ranch, a tract of 2,500 acres or more, belonging to the Southern Pacific Railway and about five miles north of the city. It was being improved and beautified for subdivision into villas with acreage lots for sale to wealthy people. Somewhere in this estate was a rather high conical hill around and up which a new road wound to the top. We drove to the top to get the view of the ocean and surrounding country, which was

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beautiful and interesting, but I did not enjoy the ride because of the way the automobile lurched from side to side and in places barely missed by a margin of only a few inches plunging down the steep slopes. The elder Mr. Fish and I clung to our seats under considerable nervous tension and breathed a sigh of relief when we again reached level ground, although our hearts came into our throats from time to time on the drive to Carpenteria. Automobiles were not yet in general use and I had rode in them so little that I did not realize that the trouble was with the driver. After reaching Carpenteria I remarked that the car seemed to be a new one. The son replied that the car was delivered that morning and this was his first experience in driving. When I expressed surprise at his courage he said that after driving a hay tedder and other farm machinery with fractious mules and horses he felt equal to operating any machine that ran on wheels.

Near Carpenteria we stopped to look at what is said to be the largest grapevine in the world. It was supported by a large trellis made of heavy beams and its stem was as large as the trunk of a tree. I could hardly encircle the main stem with my arms. It covers a large area and bears an enormous crop every year.

We inspected the warehouses and equipment and drove over some of the surrounding country where beans are grown. The soil is a sandy black loam, mostly level, evidently very fertile, and was in a state of fine cultivation. We saw also many olive, walnut and lemon orchards. I had dinner with the family on our return to the house and they were very friendly. In front of the house were several large kumquat trees loaded with small, oblong orange-like fruits which contrasted prettily with the glossy green foliage.

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Ventura.

In the afternoon of May 4 I went to Ventura. I first called at the office of the Hagne-Kellogg Seed Company and inspected their warehouses, equipment, and stocks. They also specialized on seed beans, growing them in large quantities near Ventura, Santa Paula, and Lompoc.

Before breakfast the next morning I inspected the nursery of the Theodisia B. Sheppard Company and was shown over the place by the manager, Mr. W. H. Francis. The nursery occupied the city block opposite the hotel. A most interesting feature of the nursery was a large araucaria tree in the center, approximately 100 feet high, perfectly symmetrical, which Mr. Francis thought was 25 or 30 years old and probably the finest specimen in the United States. Then he showed me a collection of marvelous hybrid petunias that had been developed on the place. He wanted to know if the government could not buy some of the seed, but when he said they had only a few ounces which they valued at \$150 an ounce, and I said we had to buy petunia seed ~~by~~ in 1000 pound lots at less than \$1 a pound, it was evident that we could not do business. There was also a fine collection of ornamental cacti, many of which were in bloom; and a beautiful Australian passion vine with brilliant red blossoms.

In the afternoon Mr. Kellogg took me for a ride through the bean growing region near Ventura. At my suggestion we called on Mr. Samuel Cole, the bulb grower, who made a specialty of freesias, cobaea scandens, calla lilies, and white gladioli. I envied his situation. He and his wife were still young. He was well and favorably known in the seed and nursery trade as a suc-

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cessful grower of quality bulbs. He had realized a considerable profit in the sale of some valley land. Now, he had an attractive new bungalow dwelling on the slope overlooking the town of Ventura, the beach, and the ocean. The house was surrounded by attractive grounds set with flowers, shrubs, and trees. Directly behind the house was a narrow opening in the steep slope of the low mountain. This narrow opening was the outer end of a small oblong cañon with a flat bottom of rich soil where he grew his beloved bulbs. It was a little isolated world separated from the outer world by his house and gardens at the entrance and the ~~enormous~~ steep slopes of the mountain about the cañon. Can one imagine a more ideal situation for a lover and grower of flowers?

We next called on a Mr. and Mrs. Gould, who specialized on petunias. Both were growing old together and were still enthusiastic. They had some lovely hybrid petunias, some magnificent marigolds with deep orange red blossoms nine inches across, and a small patch of pink escholtzias.

In the afternoon I left for Los Angeles. Nothing of special interest was to be seen en route except large areas in sugar beets and a fine avenue of eucalyptus trees near Oxnard. About half way between Oxnard and Los Angeles the train passes through a barren, rocky, mountain district. The soil appears to be poor, alkaline, semidesert, and extremely unattractive.

It may be well to note here that from the Rocky Mountains westward to Bellingham and south as far as Santa Barbara the weather was too cool for comfort and heavy clothing was necessary. From Santa Barbara southward midsummer heat was experienced, with cool nights along the coast.

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the low mountain. This narrow opening was the outer end of a small oblong cañon with a flat bottom of rich soil where he grew his beloved bulbs. It was a little isolated world separated from the outer world by his house and gardens at the entrance and the steep slopes of the mountain about the cañon. Can one imagine a more ideal situation for a lover and grower of flowers?

We next called on a Mr. and Mrs. Gould, who specialized on petunias. Both were growing old together and were still enthusiastic. They had some lovely hybrid petunias, some magnificent marigolds with deep orange red blossoms nine inches across, and a small patch of pink escholtzias.

In the afternoon I left for Los Angeles. Nothing of special interest was to be seen en route except large areas in sugar beets and a fine avenue of eucalyptus trees near Oxnard. About half way between Oxnard and Los Angeles the train passes through a barren, rocky, mountain district. The soil appears to be poor, alkaline, semidesert, and extremely unattractive.

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Los Angeles, May 6.

In the forenoon I rode on the electric line out to Elftman, a station about fifteen miles northwest of the city, where I was met by Mr. John Bodger, his son, and a representative of D.M.Ferry & Co., seedsmen of Detroit. ~~Further~~ Together we inspected the Bodger seed ranch of about 500 acres near Elftman. The country in this section was an open prairie which until recently had been a cattle ranch containing many thousands of acres. The soil is a light sandy loam with spots of black adobe. Here were great fields of sweet peas, calendula, poppies, centaurea, zinnia, escholtzia, candytuft, ~~whix~~ sweet alyssum, lettuce, dwarf peas, and cucumbers, for seed.

Next we drove about ten miles to Gardena and inspected another flower seed ranch of the Bodgers where we had luncheon. Another ten miles drive brought us to ~~Redondo~~ Redondo Beach, which was a small village and seaside resort. The country towards Redondo Beach is sandy in character and there were many large sand dunes. Great quantities of pink mesembrianthemum were growing in pure sand; in fact, I saw several square yards of it growing on a concrete pavement. I noted also an abundance of wild purple verbenas. Much of the country between the beach and Los Angeles was in the hands of real estate speculators and laid out in streets and city blocks for sale.

Returning we came through the western portion of Los Angeles, passed through a section dotted with oil well derricks, and as far out as Hollywood, which was later to become a center of the motion picture industry of America.

The next day, Sunday, in company with Messrs. Aggeler and Musser, seedsmen, I visited their seed farm near Westminster,

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(1911)

E--587.

which is about 20 miles out from the city on an interurban line to Santa Ana. The farm itself was not up to my expectations and there was little of interest to be seen. However, a good luncheon was served in the old residence on the place. Near the house was an ~~old~~ extraordinarily large Papa Gant^uier rose bush which was said to be the parent of all its kind in California. The little son of the manager told me with much pride that he was in the poultry business, his capital and stock in trade consisting of half a dozen bantam hens and a rooster. I suggested that he should have larger hens in order to have larger eggs to sell, "But," he replied brightly, "you see you can get more little eggs than you can big ones," which no doubt seemed logical from his point of view. I suspected that the firm of Aggeler & Musser profited most from their retail trade in seeds with Chinese and Mexican gardeners, their retail seed catalogs being printed in three languages, English, Spanish, and Chinese.

The next forenoon I called on the Germain Seed Company and other seedsmen in the city. In the afternoon I visited Pasadena to inspect the ornamental plantings about the residences and villas. This was without doubt the flower city of the Pacific Coast. There were hundreds of beautiful residences with acres of flowers, ornamental shrubs, palms and trees about them. The air was sweet with the perfume of flowers and thrilled with the melody of countless mocking birds. Perhaps the most striking ornamental plant to be seen was the Bougainvillea vines which climbs to the second story of houses and hung in great festoons of pure dark red color. Here, as in Los Angeles and other towns in California, the graceful pepper tree (*Schinus molle*) was used largely for street planting. Near Pasadena I first saw large commer-

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cial orange orchards, which I was told were valued at \$2,400 per acre.

Hollywood.

The next day, May 9, I spent a few hours in the fruit and vegetable markets of Los Angeles, and then again visited Hollywood, especially to make a closer inspection of the place of Paul de Longpre, whose marvelous watercolor pictures of flowers I had seen exhibited several times in Washington. He was a real genius for painting flowers and his pictures were the most satisfying of any I have ever seen. He alone seemed to be able to portray correctly the delicate forms and colors of flowers. His home was constructed in Moorish style of cream colored brick and red tiled roofs and looked as if it might have been transported directly from some old Spanish city. The grounds occupied most of a city block and were planted with a bewildering mass of flowering plants and palms, the general effect of which was brilliant. There were many other beautiful residences and flower gardens at Hollywood, but none of them attracted me as did that of the artist, Paul de Longpre.

Riverside.

In the afternoon I made the trip to Riverside, passing through a country planted almost exclusively to orange orchards. Near San Gabriel I noted the large chicken ranches and walnut orchards. I stopped at the Mission Inn which was then unique in its artistic simplicity, decorations, and setting. The streets of Riverside were planted with pepper trees, palms, geraniums, fuchsias, lantanas, and Bougainvillias. A small city park contained an interesting collection of cacti.

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The next morning I met the proprietor of the Inn, Mr.

Mr. Frank Miller, and Mr. Charles Loring of Minnesota and Riverside, Mr. E.A. Chase, president of the National Orange Company, and my friend, Mr. A. D. Shammel. Mr. Loring inquired where seed of the wild elderberry could be obtained. He wished to plant a quantity on Mount Ribideaux for the birds. The elderberry is very hardy and drouth resistant and in this climate was said to grow to a height of twenty feet or more. The birds are fond of the berries and for this reason it is difficult to obtain seed.

Mr. Chase took Mr. Shammel and I to the Eureka and Vivienda ranches five or six miles out of Riverside. These ranches were said to be the finest orange orchards in the world. The trees were about ten years old, sixteen feet high, symmetrical, healthy and prolific. The hot sun, dry climate, soil, and irrigation make the trees look as if they were grown in a hothouse. They were highly ornamental and an orchard laden with ripe golden fruit is a beautiful sight. The trees were beginning to blossom and the air was fragrant with perfume. The orchards covered many hundreds of acres and the tree rows were laid out with mathematical precision as far as the eye could see. The prosperity of this section was founded on irrigation and oranges. Without irrigation it was a desert and nothing but desert vegetation would grow.

Mr. Chase was an old man but still bright and vigorous. He said that he was formerly in the nursery business at Rochester, New York, but came to Riverside in 1891, when the hills and surrounding country were bare. He began raising orange trees for sale. Before he started the price had been one dollar per tree, but in a few years so many people, teachers, preachers, and others, began raising them that the price gradually fell as low as eight

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~~each~~ cents each. This drove out the small growers and the nursery was again able to sell its trees for a dollar apiece, at which price they could realize a good profit. He made it a practice to propagate each year more trees than would be required to supply the trade and the excess trees that could not be sold as nursery stock were planted. In this way his orchards grew until in 1911 he had more than 1,500 acres of bearing trees and had given up the nursery business.

In the Chase orchards laborers were picking the last of the crop. I noticed that under every tree was a peck or more of good sound ripe oranges. I asked if these were to be picked up or allowed to rot on the ground. Mr. Chase said his men were instructed not to pick up a single orange from the ground for fear of injury that might result in disease. He acknowledged that this practice resulted in great waste and that the fruit then on the ground was probably worth \$5,000 if it could be sold. Years later I learned that converting fallen oranges into jams, marmalades, and preserves had become a considerable industry in California.

Mexican labor was employed exclusively on this ranches and was said to be very satisfactory. The fruit was sold in carload lots at auction in Boston, New York, Pittsburgh, and other cities. Most of the orange orchards were well cared for and were in fine condition. One of the exceptions was a large orchard, uncultivated, grown up to weeds, with many of its trees dying. Mr. Chase explained that this orchard belonged to an estate and because the heirs could not agree the orchard was dying from neglect.

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pecially tobacco, maize, and cotton, entered the employ of the National Orange Company and seemed to be happy in his work. He was especially interested in studying the relative productivity of individual orange trees with a view to selecting out and developing a strain that would outyield all others. He said that individual trees in the same orchard and subjected to the same conditions will vary uniformly year after year from three to fourteen boxes per tree; that the same trees will never produce more than three or four boxes, while others in the same orchard will always produce from eight to fourteen boxes. His idea was to propagate only from the more prolific trees so as to secure a uniformly high rate of bearing. He suggested that in view of the importance of the citrus industry in California, the fact that the industry was a new one, and that very little systematic work had been done with regard to varieties, the national government should establish an experimental station at Riverside where all varieties of citrus fruits could be collected, observed, propagated, and tested.

Indio.

In the afternoon I went to ~~Redlands~~ Indio. Near Redlands I saw great quantities of oranges spread on the ground for fertilizer. Boys came alongside the train when it stopped at way stations offering the finest ripe oranges for fifteen cents a dozen.

In the valley south of Redlands new orange orchards were being planted. We passed occasional chicken ranches and small fields of barley and alfalfa. Aside from the gray bushes and brown weeds the hills and mountains were bare and unattractive. In places wild lupines were plentiful. Between Beaumont and

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Banning I saw one large peach orchard and several apricot orchards. Below Banning I first saw numerous wild cacti in blossom. Between Banning and ^{Palm}~~Pamona~~ Springs we passed through a desert section, nearly flat and hemmed in on both sides by barren mountains which looked like huge piles of sand or clay. The desert itself was covered with small water and wind worn boulders and a sparse growth of weeds and shrubs. It looked like the bed of an old lake gone dry. No trees, grass, or water was to be seen.

Palm Springs is a small oasis, but the only building was a little railway station. A little water seemed to ooze out of the ground, and about half an acre was planted to date palms which were thriving.

Below Palm Springs was a section of windblown white sand and small boulders. The prevailing winds evidently came from the northwest because the desert bushes grew only on the southeast side of stones and sometimes trailed out in that direction many feet on the ground. Apparently they were able to grow only with the slight protection afforded by the stones, the largest of which might not be more than ten ~~or~~ or sixteen inches in diameter.

Near Indio the valley broadens out and is covered with arrow ~~wood~~ wood and clumps of mesquite. The valley is flanked on both sides by steep barren mountains of gray, blue, yellow, and red clays, which are somewhat forbidding in the glare of bright sunlight and become wierdly beautiful at night.

Indio was a small hamlet clustered about the little railway station in a grove of large cottonwoods. There were two hotels, one a small frame structure a short distance from the

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station, and the other was the Southern Pacific Hotel where I stopped because it had been recommended as the better of the two. However, it was dirty, full of mosquitos, the switch engine worked all night without intermission back and forth in front of the hotel, and the food was abominable. I wondered what additional discomforts the rival hotel might have to offer.

The next morning Mr. Drummond, superintendent of the U.S. Experimental Date Garden, called for me and together we drove to the garden, which was situated about three miles across the desert. About half way we stopped at the Dubrow Ranch, which was much neglected and had been without irrigation for the previous five years. However, a 60 acre field of alfalfa was flourishing and in full blossom. Some date palms were well set with fruit and a freak blossom on one of the palms was half male and half female. In the orchard were date palms, olive and walnut trees, grapes, zantee currants, oranges, lemons, pears, jujubes, eucalypti, and umbrella trees. Near the ranch the desert was covered with arrow wood and hardy daturas. The daturas were in bloom and their large white trumpet-like flowers were very attractive.

Beyond the Dubrow place we came to a quarter section belonging to a Mr. Burdick. He had forty acres in alfalfa from which he expected to take seven cuttings with a yield of sixty to seventy tons per acre. He planned to install irrigation pipes underground to avoid loss of water from evaporation such as occurs in open ditches. Irrigation water was pumped from wells with gasoline engines.

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oasis. It was planted principally to date palms, fig trees, and grape vines. The fig orchard was in front of the house with eight year old trees that were sixteen feet in height and branches interlaced so closely that the sunlight could not reach the ground underneath. He had made his first shipment of about thirteen pounds of figs the first of May, for which he received \$16, and was greatly encouraged.

Along the road and extending into the nonirrigated land was a patch of licorice sprouts which were running wild and growing like weeds. They resembled locust sprouts in appearance and could be grown in quantity without irrigation, but Mr. Johnson said there was no market for licorice roots in this country. His date palms, almond, peach, and walnut trees, dewberries and other fruiting plants were flourishing. He said the offshoots from his date palms were worth \$25 each. His pomegranates with their scarlet fruits and glistening foliage were very attractive.

At the government garden ten or fifteen acres were in cultivation, mostly in date palms, which were not so far advanced as those on the Johnson place. In addition to the date palms Mr. Drummond was propagating and distributing grape vines, zantee currants, peaches, apricots, plums, prunes, almonds, olives, capri-figs, and other plant material, and was experimenting with alfalfa, Tangier peas, and other leguminous forage plants. During the previous year he had distributed more than half a million date palm seedlings. He said that when the garden was first established much difficulty was experienced with jack rabbits, but that pig's liver rubbed on the plants was efficacious in keeping them away and the settlers had shot so many of them that they were becoming scarce.

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The station was equipped with a small three room cottage, tool house, water tank, and gasoline engine for pumping. A narrow strip around the house was kept green and fresh with irrigated clover. The porch and windows were screened with netting to keep out flies and mosquitos. The day temperatures in the summer go above 100 degrees in the shade, but at dusk the wind changes suddenly from the south to the north and in a few hours it is cool and comfortable. Cool water was obtained by suspending a bucket in the air with a moist cloth wrapped about it. The greatest drawback to life in an oasis on the desert, Mrs. Drummond said, was the sand. Tears came into her eyes and her face was tremulous as she described her futile and unavailing efforts to keep sand out of the little house. No matter how often she cleaned it the fine sand would find its way through invisible cracks and sift over and into books, furniture, clothing, food, and all other objects in the house. In spite of the heat, the sand, and the isolation, Mr. and Mrs. Drummond seemed to like their situation. He was especially enthusiastic about the forcing conditions that resulted in such quick and remarkable growth of all plant life supplied with water.

In the evening we drove across the desert to the place of Mr. J. H. Northrup near the foot of the gray mountains. He had a small cottage almost entirely covered with grape vines heavily laden with fruit. His orchard contained twenty acres in seedling dates palms and many figs, apricots, pears, quinces, oranges, lemons, loquats, kumquats, grapes, and other fruits that could be grown under those conditions. Grape vines planted one year were two feet in height with a spread of four feet and were loaded with enormous bunches of beautiful grapes. There were

The station was equipped with a small three room cottage, tool house, water tank, and gasoline engine for pumping. A narrow strip around the house was kept green and fresh with irrigated clover. The porch and windows were screened with netting to keep out flies and mosquitoes. The day temperatures in the summer go above 100 degrees in the shade, but at dusk the wind changes suddenly from the south to the north and in a few hours it is cool and comfortable. Cool water was obtained by suspending a bucket in the air with a moist cloth wrapped about it. The greatest drawback to life in an oasis on the desert, Mrs. Drummond said, was the sand. Tears came into her eyes and her face was tremulous as she described her futile and unavailing efforts to keep sand out of the little house. No matter how often she cleaned it the fine sand would find its way through invisible cracks and sift over and into books, furniture, clothing, food, and all other objects in the house. In spite of the heat, the sand, and the isolation, Mr. and Mrs. Drummond seemed to like their situation. He was especially enthusiastic about the forcing conditions that resulted in such quick and remarkable growth of all plants life supplied with water.

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watermelon vines with a spread of ten feet, beans, asparagus, artichokes, alfalfa, cotton, tobacco, and small plots of various other crop plants. He had done a lot of budding and grafting and intended to try budding the loquat on quince stocks. Near the house ^{was} a magnificent specimen of the prickly poppy, Argemone, a single bush of which was four feet high and six feet in diameter, covered with beautiful white blossoms with golden centers.

Mr. Northrup was a middle aged man of a mechanical turn of mind. He had invented and patented certain improvements in spinning machines that were widely used and from his royalties derived a good income. Because of his failing health he was condemned to live in a hot dry climate. To amuse himself he exercised his ingenuity not only in growing things but in equipping his little farm and home with every mechanical device and convenience. He had a gasolene engine that he had remodeled. His entire place was underlaid with pipes with stop cocks at regular intervals and the system was so arranged that it was either automatic or easily controled by levers in or near his workshop. He was trying all sorts of experiments in budding and grafting, some of which failed and some succeeded, so that while he was not a trained horticulturist he was liable to stumble upon some very interesting results. The whole place was extremely neat and orderly, looked like a well kept greenhouse, and should serve as an object lesson to other settlers in the valley. ~~And yet~~ He was a man of some wealth whose life had been spent in cities and had traveled widely, but now was condemned to spend the rest of his life in the dreary desert of southern California under penalty of death if he ventured away, and yet I have seen but few men so completely absorbed in their chosen work and enthusiastic about it as Mr. Northrup.

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Near the Northrup place a piece of desert land was being cleared by an elderly couple who lived at Indio and evidently were very poor. They had an aged horse and wagon and daily drove out to their prospective little farm where they would work under the blazing sun and return after sundown. A more striking contrast between the cultivated land on the Northrup place and the land they were clearing could hardly be imagined. The one was green and luxuriant with rapidly growing trees, vines, and plants. The other was a gray, desolate looking waste of dry sand and pebbles, dead weeds, gray sage brush and misshapen mesquite. It was nearly sunset when I saw them. The old couple ^{were} ~~was~~ evidently very weary from their toil in the hot sun at tasks beyond their strength. They would work with hoe, axe, or mattock for a few minutes and then rest awhile. Invariably they would turn to look at the luxuriant vegetation and neat appearance of the Northrup place. This seemed to give them courage and they would renew their labor. A little later I saw them sitting side by side in their little wagon crossing the desert in the moonlight of the evening and could not help thinking of the faith, hope, pioneer courage and perseverance they must have had to undergo the daily struggle involved in trying to subdue a portion of the desert, lured on by a vision of a little oasis of their own comparable to the one Mr. Northrup had created. The picture presented by this lonely couple crossing the desert with the purple mountains looming up on each side of the moonlit valley was as solemnly beautiful as anything I have since seen in any of the art galleries of the world.

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Mecca, May 12.

The next day Mr. Drummond drove with me from Indio to Mecca. At Thermal en route we stopped to inspect the warehouse of the Fruit and Truck Growers Union and talked with the manager who supplied some statistics concerning the growth of the trucking industry and shipments from that newly developed district. From Thermal to Coachella there were many spots encrusted with alkali. The scattering farms in this section were irrigated with water from artesian wells. Aside from the orchards and alfalfa fields, which were so few in number that the country appeared to be uninhabited, there was nothing green to be seen in the valley except scattering clumps of mesquite, which differs from the mesquite seen in Texas. The Texas mesquite grows upright, fairly straight and smooth and from a distance resembles locust or peach trees. Here the mesquite attains large size but the trunks lie on the ground, take root and spread. Patches several acres in extent were said to have originally sprung from a single root. Most of these mesquite clumps are on knolls formed by drifting sand being arrested by their trunks and an accumulation of leaves and twigs for many years.

We reached Mecca at noon and had luncheon at a small hotel. The hotel was simply a three room house with eight or ten sleeping tents which were numbered and assigned as rooms. In addition to the little railway station, the hotel, one store, and a small schoolhouse, there were three or four dwellings in the hamlet.

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(1911)

E--599.

within half a mile of Mecca, but by 1911 it had receded. The railway ran along the eastern shore almost the entire length of the sea from Mecca to Imperial Junction. It was a beautiful sheet of water from one to ten miles wide and about 30 miles long. It still received the overflow from the Colorado River and was also thought to be fed by underground springs. At any rate it was no longer sinking. All the way from Palm Springs south one or more of the old beach lines could be distinguished high ~~up~~ on the mountain side, showing that at some remote past time the entire valley was an inland sea. It has no outlet to the ocean, evaporation is very great during the summer months, and it is now one of the few places in the United States that is more than one hundred feet below sea level.

In the afternoon we drove out to the experimental date garden about a mile from the hamlet. The garden was about ten acres in extent and its loose sandy soil was irrigated with water pumped from a well. The date palms were of different ages and sizes and were very unattractive because they had been burned to the ground to destroy an insect scale. However, they were recovering rapidly, having made a growth of from four to six feet in forty days. To illustrate the forcing conditions of an irrigated spot in the desert, a single specimen of eucalyptus rostrata only six years old was sixteen inches in diameter and over forty feet high.

The experimental date gardens at Indio, Coachella, and Mecca, established by the U.S. Department of Agriculture, and the privately owned date plantations in the Imperial Valley all resulted from the specialized work on date palms by Dr. Walter T. Swingle in the late 90's and since. From nothing the date plan -

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(1911)

E--600.

tations had developed into a profitable and growing industry.

Imperial Valley, May 13.

At an early hour I caught the Southern Pacific train south and changed cars at Imperial Junction, which was nothing more than a small station with a lunch counter in a box car on a siding. Below the Junction the road runs south and west around the lower end of the Salton Sea. At this point there was a vast stretch of country the surface of which was dried mud left by the receding waters of the sea. Where the overflow from the Colorado River enters the ~~seax~~ valley is a broad flat stretch of country about twelve feet below the level of the land on both sides and was covered with a growth of weeds and small willows. Beyond these bottom lands farms and ranches became more numerous with large fields of barley and alfalfa, which was a most refreshing sight in contrast with the surrounding desert.

Brawley.

This is the first town of any size after leaving Imperial Junction. It had become a large shipping point for cantaloupes and other truck crops. Near Brawley was to be seen many hundreds of acres planted to canteloupes and watermelons, with many packing houses and huge piles of crates. Groves of eucalyptus dotted the landscape.

Between Brawley and Imperial were some fine specimens of tamarisk trees. The soil is a stiff red clay entirely different from the loose sandy soil at Mecca and northward. Ten miles or more south of Brawley the soil becomes dark in color and more like adobe. Near Imperial were some large cotton fields, the plants being in the four leaf stage. Also there were several small orchards of date palms about eight feet high. Here also

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one began to see droves of hogs, horses and cattle, made possible by the barley and alfalfa fields.

El Centro.

At the hotel in El Centro I met Mr. Wilsey, the horticultural commissioner of the county, and Mr. Peterson, superintendent at the Yuma Plant Introduction Garden. Together we witnessed a demonstration of the Universal Fiber Gin in a garage near the hotel by a Mr. Pierce, the inventor of the machine, which was made at Belfast, Ireland. It differed from the ordinary cotton gin with saws and brushes in having a composition cylinder with horsehair bristles against which a series of steel cams played back and forth to separate the lint from the seed. It seemed to do good work and the inventor claimed that it was more efficient than the ~~xx~~ saw gins in common use.

After luncheon Mr. Peterson and I explored some of the surrounding country with a horse and carriage. The soil is a dark red clay and very stiff and intractable. It bakes as hard as a brick. The country is served with water from the Colorado River in large irrigation ditches from which smaller ditches carry the water to individual farms. Cotton, alfalfa, dairying, and the raising of cattle, horses, and pigs, were the leading industries. Mr. Wilsey said that irrigation had developed the land for fifteen miles each side of the railroad, making about 250,000 acres available. The preceding season over 2,000 cars of melons were shipped from this point and 6,000 bales of cotton. On one farm we saw a forty acre field of asparagus with plants five feet high and meeting across the rows. A small country schoolhouse by the roadside attracted my attention. It had a double roof with an air space between and a wide veranda built

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around three sides, with shingles extending down the sides and cut in the form of arches between the pillars. The building was neat and evidently planned to afford a maximum protection against excessive heat.

A striking characteristic of the townspeople was the appearance of equality, the spirit of friendly cooperation, optimism, and pride in the development already achieved. The town and surrounding country were so new and the farmers and workmen so prosperous that all met on about the same footing. They all had houses of the same class, dressed alike, and their incomes were probably about the same. They came from all sections of the United States and were working for their own betterment and the advancement of their community. I saw many Mexicans in the town, which was to be expected as the Mexican boundary is only a few miles to the south. The mountains across the border are high and picturesque and seem to be closer to the town than they really are.

Yuma Experimental Farm; Bard, California.

That night Mr. Peterson and I went by train to Yuma, Arizona, walked across the bridge over the Colorado River, and drove seven miles to the experimental farm near Bard, arriving shortly after midnight. On awaking the next morning, May 14, I found several specialists of the Bureau of Plant Industry at the farm, including Dr. O. F. Cook, and Messrs. McLachlin, Mead, and Cox. As there were no hotel accommodations in the neighborhood a relative of Mr. Peterson kept house for the staff and visitors, supplying meals to regular boarders at 20 cents and to transients at 35 cents, the department furnishing the house, furniture, and cook-

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(1911)

E--603.

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After being shown the system of office records and accounts in company with Mr. Peterson and Dr. Cook I inspected the experimental plantings of cotton, which included more than 1,500 individual boll selections and crossings and their characteristics and peculiarities were pointed out by Dr. Cook. The various experiments in the use of irrigation water were explained to me. A number of foreign plant introductions were growing at the station, including a collection of melons. Dr. Cook recommended that the casaba melon be included in the Congressional seed distribution. Mr. Tracy, Sr., had previously made the same recommendation. This recommendation could not be adopted because ~~the melon~~ this type of melon was not yet grown to any extent and a sufficient quantity of seed for general distribution was not available. The casaba melons were highly esteemed in Asia and Europe, but because they are different from the muskmelons and cantaloupes with which our people were familiar they were looked at askance and it took more than a quarter of a century to develop a taste for them in this country.

In the afternoon Mr. Peterson took ~~me~~ by horse and buggy back to Yuma, Arizona. The road from Bard followed an irrigation canal most of the distance. It ran through the flat bottom lands which were overgrown with cottonwoods and thickets of arrow wood. In the Imperial Valley the arrow sprouts reach a ~~height~~ height of four to six feet, but here they were twelve to twenty

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feet high. The bottom lands extend back ten to twenty miles from the river to a region of sand dunes, clay foot hills and mountains. There were very few clearings or places in cultivation between Bard and Yuma, although Mr. Peterson said the country was settling up fast.

Yuma, Arizona.

At Yuma the Colorado River seemed to be about a quarter of a mile wide and flowed with a swift, strong, muddy current. The water was said always to be muddy. The banks are rather high and the railway tracks were in a deep cut. Yuma was a straggling, dirty looking town with villainous hotels, cheap restaurants and saloons. The streets were filled with dirty, disreputable looking Indians and slouchy white men. Soon after I arrived in the late afternoon a gale of wind sprang up from the south, carrying with it a cloud of desert dust and sand which, added to the excessive heat, was ~~a~~ extremely disagreeable. The sand blew horizontally across the street with great force. It was impossible to see more than twenty feet and difficult to stand or walk against the wind. Men and animals had to seek shelter and within a few minutes the streets were entirely deserted. It was with a feeling of great relief when I climbed aboard an eastbound Southern Pacific train.

Yuma to El Paso, May 15.

The southern portion of Arizona and New Mexico between Yuma and El Paso is a monotonous succession of desert hills and barren mountains. The only vegetation seen was countless millions of yuca and a few cacti. At Demming were a few flowing wells and farms had been started, but nothing was growing on them. I

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As one approaches El Paso from the west the railway follows the course of the Rio Grande which is here a narrow stream between high banks. Occasionally a few acres of bottom land near the stream was grown up with trees, but there was no land in cultivation. In places small sharp ridges of rock ran down to the stream and were very picturesque.

We reached El Paso about noon and I spent the afternoon sightseeing between trains.

El Paso.

The newer residential section of the city was modern and would compare favorably with some sections in other towns, but the older portion of the city along the river was made up of low, one story, flat roofed, adobe huts, overflowing with a dirty Mexican population. In the center of the town was a public square laid out as a park with a band stand and seats. Late in the afternoon the band played, the park seats were all occupied, and a procession of young people of both sexes promenaded around the outskirts, exactly as they do in all Latin American cities and towns. The people of El Paso were much interested in the revolution on the Mexican side of the river.

I walked down the main street to the bridge that crosses the river with the intention of setting foot on Mexican soil, but was stopped by a guard. I returned on the next street parallel with the main street and found it inhabited by women plying the oldest of their vocations. There were hundreds of them of all ages and colors and they sat ~~in~~ or stood in doorways or inside

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the windows and invited their "sweethearts" to enter. The houses nearest the river were occupied by Mexican women and negresses and halfbreed Indians. Nearer the center of town the women were younger and more attractive in appearance and dress. Some of them were scantily clad to better display their charms. Some of the residences near the park were of the better class with all curtains down, and were patronized by the elite.

San Antonio, May 16.

I left ~~on~~ El Paso on the evening train and the run to San Antonio took 22 hours without stop. The western portion of Texas is high, rolling, open country, covered with thin short grass that was already turning brown, and thousands of acres of yuccas that were beginning to bloom. At places the altitude exceeds 4,000 feet. Eastward the vegetation gradually became more abundant, until within 100 miles of San Antonio we entered a region of mesquite and cacti. As far as one can see the country was overgrown with mesquite trees about eighteen feet high and the ground was covered with a dense matting of prickly pear. Wild flowers became more numerous as we approached San Antonio. The rightofway along the railroad was a continuous stream of brilliant colors. I noted quantities of wild verbena, ageratum, Mexican poppy, thistles, primroses, helianthus, correopsis, mustard, daisies, wild roses, and gourd vines. For hundreds of miles no houses were seen except a few at the railway flag stations. Near Del Rio I first saw a few acres of cultivated ground, a dairy farm and some beehives. Near Devil's River I caught sight of a yellow Mexican poppy. Near Spofford I saw quantities of a plant growing wild with bright four-petaled blossoms, mostly white but in some cases tinged with pink. Near Uvalde were large patches

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of deep crimson blossoms, bell shaped, on stalks three feet high, a blossom on each branch, but with very little foliage. Fields of cotton and maize were first seen near Uvalde, the cotton eight inches high and the corn shoulder high. Oats were being harvested near Sabinal. Live oaks were first seen near this place. Near San Antonio were large farms planted to cotton, maize, and oats.

On arrival at San Antonio I went to the old Maverick Hotel, partly because of the name and partly because I had heard of it. It proved to be an old hotel with rather primitive accommodations and poorly kept. In the late afternoon I walked about the business section, saw some ~~xxx~~ of the residences along the little stream that runs through the city, and took a look at the Alamo. of historic and heroic fame.

The next morning I hired a horse and buggy and drove out about five miles to the U.S. Experimental Farm and was shown over the place by Mr. Blair, the horticulturist. The station was well equipped, neat and attractive. Here I saw a collection of Dr. Swingle's citranges, Mr. Kearney's pomegranates, and plots of cotton, maize, sorghums, watermelons, alfalfa, oats, barley, and other forage crops.

San Antonio has the appearance of a very old city. The streets are narrow. The old Alamo mission building faces a small public square near the center of the city. Here was enacted one of the tragedies of the war of independence from Mexico nearly a century ago when a small band of Americans was surrounded and exterminated by a large force of Mexicans, after selling their lives dearly to the last man. The inscription on the Alamo reads: "Thermopolae had her messenger of defeat, the Alamo had none." Many

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fine pecan trees were growing in the yards and along the side streets. A small stream flows through the city, crossed by numerous bridges, and attempts had been made to beautify it by planting water lilies in the stream and flowering shrubs and plants along its banks.

Corpus Christi, May 17.

Leaving San Antonio early in the afternoon I traveled through a comparatively level country with alternating strips of black adobe soil, red clay, and sandy soils. Numerous farms and small villages were passed. The uncultivated portions of the country were grown up with mesquite and cacti. Along the railway was a brilliant display of wild flowers of almost every color except blue. No cultivated garden could present a more pleasing combination of color than was to be seen from the car windows. Near Lyford I first saw an orchard of Satsuma oranges. ^I ~~We~~ reached Corpus Christi late in the evening, spent the night in a small hotel on the beach, and was lulled to sleep by the soft murmur and splash of the waves.

Corpus Christi ^{was} ~~is~~ a small town on the bay of the same name and was a summer resort for a large portion of western and southern Texas. It is situated on high ground overlooking the bay. Unlike the Atlantic coast the soil is fertile almost to the beach.

Brownsville, May 18.

I left Corpus Christi at 6 a.m. At Taft, between Sinton and Gregory, was the Taft ranch, said to contain 15,000 to 20,000 acres of rich black land. A agent of an implement company with whom I talked said he had spent two days on the ranch and that large areas were being cleared of mesquite and cacti under con-

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(1911)

E--609.

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The six hour run by train to Brownsville was through a flat country that was formerly occupied by large cattle ranches. In 1911 towns were springing up and growing rapidly along the line of the railway and large ranches were being subdivided into farms and orchards. Much of the land was devoted to trucking with such crops as lettuce, cabbage, tomatoes, onions, beets, and melons. There was some dairying and large tracts were being planted to figs, Satsuma oranges, and grapes. Towards Brownsville irrigation was practiced. The small towns along the railway were being boomed and the train was met at every station by enterprising agents who made extravagant claims for the country which were not likely to be realized. All the wild land was covered with mesquite and cacti. The Gulf of Mexico, or bays and lagoons opening into it, could be seen in many places from the train. In the early morning hours hundreds of jack rabbits sprang up near the railway and ran off for a few hundred yards, then stop, sit up on their haunches with their ears straight up in the air, and watch the train. Several passengers took pot shots at them with revolvers but so far as I could see without a single hit.

At Brownsville I was met by Professor Green, who drove me to the Plant Introduction Garden on the old Brownsville military reservation on the banks of the Rio Grande near the town. The reservation contained several hundred acres, but only about thirty

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were in cultivation. The station was unusually well equipped with buildings which had formerly been used as officers quarters and barracks. After examining the system of records kept at the station I was shown over the place by Prof. Green. I was struck by the great variety of plants under observation, among which was a four year old date palm, a row of Chinese tallow trees, bananas, palms, grapes, wheat, oats, lettuce, pepers, pomegranates, bur clover, calabash gourds, rutabagas, peaches, cowpeas, soy beans, oranges, nonsacharine sorghums, okra, beans, citrange seedlings, date seedlings, varieties of medicago, sweet corn, almonds, papaya, dewberries, pecans, lemons, Chinese jujubes, tung oil trees, carobs, Rhodes grass, clovers, alfalfa, Laguna corn, dasheens, pumpkins, and spineless cattii. These plants were grown with varying degrees of success. The soil is black adobe and very fertile, but was badly infested with root rot. Mexican labor was employed.

The Rio Grande flowed by the garden and was about a quarter of a mile wide, with a swift and muddy current. It passed the station with a great sweep and in places was cutting out the bank on the American side. This alternate swing and erosion by the current goes on continually and the government was put to considerable expense in an effort to hold the river in its course.

In the afternoon Prof. Green took me into Brownsville and introduced me to a number of business men. The most interesting man we met was Mr. Luis Cobolini, a middle aged Italian, who ran a fleet of fishing schooners on the Gulf, had accumulated a small fortune, and acquired considerable influence in the community. He lived in a small two room shack near the railway station. We found him with copies of the Congressional Record spread out

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before him and with pencil and paper engaged in analyzing a ~~tax~~ tariff speech by a Texas Member of Congress. One reason for his influence with the Texas delegation to Congress was the fact that he kept a card index record of the daily movements and official acts of every Senator and Member of the House of Representatives from Texas. He could cite the number and page of the Congressional Record to show whether a particular Senator or Representative was present or absent on a given date, whether he voted yea or nay on any question, and whether he spoke his piece or simply got leave to print his remarks in the Record. Although he had been a sailor and fisherman all his life he never lost interest in silk culture which he learned as a child in Italy. He had a quantity of cocoons in his shack and explained the process of raising the worms and handling the cocoons. He kept an accurate record of the performance of each generation. His hope was that he could get State or Congressional assistance in establishing a silk industry in southwest Texas in order to provide employment for the wives and children of the Mexican laborers. He said that silk raising is a poor man's industry and expressed the belief that if the Mexican families in southwest Texas could be induced to take it up each family would make \$75 to \$100 a year for a few weeks work, which would pay for their clothing. The walls of his sh^eak were hung with shark's heads, beaks of sword fish, shells of immense sea turtles, and other suuvenirs of his life at sea.

Matamoras, Mexico.

The next day we drove across the Rio Grande to the old city of Matamoras, opposite Brownsville. We visited the vegetable market where I saw many fruits and vegetables that were new to

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(1911)

E--612.

me. On the outskirts of the town near an old military reservation we saw several old gardens with date palms, alligator pears, papayas, and other tropical fruits. Matamoros grew rapidly during our civil war when the Texas farmers sent their cotton across the river to be sold to the buyers of England, France, and Germany. Its population increased to 60,000, it prospered, and cathedrals, theaters, hotels and fine residences were built. After the war its business fell off and its population gradually declined to about 10,000, with the result that many houses were unoccupied, hotels were vacant, theaters closed, and portions of the town had the appearance of being deserted. Like all Latin American cities the streets were narrow, the buildings low and constructed flush with the sidewalks, many of them without windows in the first story, so that some of the streets looked like alleys between high brick walls. The rolling stock of the municipal street car line consisted of two diminutive coaches each pulled by an equally diminutive mule with a bell tied to its neck to give warning of its approach. The bells could be heard quite a distance, but although the line was in operation I did not see a single passenger. Drinking water was peddled from barrels mounted on two wheels and pulled by a donkey or an ox. As we passed the military barracks we saw a few small, meek, sleepy looking, barefooted Mexican soldiers. We had luncheon at a small Mexican restaurant at a little table under a grape arbor.

Houston, May 20.

Enroute eastward I had a few hours between trains at Houston. The trip to that point from Brownsville was made by night train. In a street car ride through a portion of the city I was impressed by the number of vacant houses, unpainted houses,

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and houses in a dilapidated condition. The city was hot, dusty, and very unattractive. I could see no sign of a harbor.

River Junction, Florida, May 21.

From Houston I made the run through southern Texas and Louisiana, passing through New Orleans, Gulfport, Mobile, and Pensacola, to River Junction, where I arrived at 1.30 a.m., the entire trip being across a flat and generally wooded country, often within sight of the Gulf of Mexico. River Junction could hardly be called a village and its only hotel was a tumbledown shack that ^awas not easy to find on a pitch dark night. To reach it I crossed a wide ditch in front over two teetering planks. I shouted "Halloa" several times and at last an old man appeared with a tiny kerosene lamp. He showed me to a room bare of furniture other than a cot and a chair. Removing my ^uother clothing I threw myself [?] on the cot and slept for a few hours.

While waiting ^ofor the train in the morning I walked two miles through the ^{oak}~~pine~~ woods over a sandy road to the Florida State Insane Asylum. The country is hilly, covered with a heavy growth of oak, pine, and magnolia trees, and the soil is thin, sandy, with a red clay subsoil. The asylum consisted of several large buildings surrounded by a few acres of cleared land, without ornamental plantings of any kind, and surrounded on all sides by woods. In the vicinity were many small negro cabins. However, I enjoyed the walk and the opportunity to study at close hand the soil, the vegetation, the insects, and other interesting things.

At the Junction I saw for the last time a diminutive wood-burning locomotive with a flaring smokestack out of all propor-

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tion to its size. These locomotives were common in my boyhood days but had gradually been displaced by larger and larger locomotives with smaller and smaller smokestacks.

Cairo, Georgia.

Cairo was a small town in the southern part of Georgia, the center of a sugar cane syrup industry, and near it was grown most of the collard seed of the United States. Collards are a vigorous growing member of the cabbage family that does not form heads. The leaves of this plant are much esteemed by people of the Gulf States for salads, greens, and boiling. For this reason a ton or more of the seed was included in the Congressional distribution for those states. For this purpose we had growing contracts with a number of small farmers scattered about in the woods within five or ten miles of Cairo and I spent the afternoon driving from one to the other. It was the first time that a representative of the federal government had ever called on them and most of them were much surprised and some of them a little apprehensive. They were living in very primitive conditions and their individual collard seed patches were small, mostly from one-third to one-half acre and tended by the women and children of the family. The largest patch in the country was one of five acres. The normal yield of seed was around 500 pounds per acre and the price ranged from 15 to 30 cents per pound.

Cairo had a population of about ten thousand, was prospering, and had many attractive modern homes and pretty streets and yards. It was said to be the largest shipping point for cane syrup in the south. The surrounding country is rolling, well watered with flowing streams, covered with a good growth of pine and oak timber, with many beautiful magnolia trees along the

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(1911)

E--615.

streams. The soil is sandy with red clay underneath. Crops of cotton, maize, sugar cane, sweet potatoes, peanuts, melons, oats, and cowpeas, were looking well. The improved land was usually well cultivated but needed fertilizer. Unimproved land was selling from \$10 to \$15 per acre, and improved land was bringing \$25 to \$40 per acre, or about one to ten per cent of the price of land on the Pacific Coast. Cattle and hogs were of the scrub or razor back type. The pine timber had nearly all been tapped for turpentine and considerable areas had been cut off for lumber. Compared with the semiarid regions of the west this section of the country was a poor man's paradise, because the land was cheap, fairly good, well watered, supplied with timber, with seasonable rains, mild winters, cheap building materials, and relative nearness to markets. The hotel was known to the commercial travelers of the south because it specialized on hospitality, fried chicken, and waffles and cane syrup, with which the negro waiters kept the plates piled high.

Jacksonville.

I left Cairo early in the afternoon and arrived at Jacksonville in the evening. The country traversed was similar to that around Cairo, slightly rolling, sandy soil or red clay, with large tracts of pine trees that had been tapped for turpentine or cut over for lumber. The towns and villages and scattering farm houses had a neglected appearance and the general aspect was monotonous.

Glen St. Mary, May 24.

I reached Glen St. Mary from Jacksonville about the middle of the forenoon for the purpose of inspecting the Glen St. Mary

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Nursery. Aside from a diminutive railway station there was only a country store and two or three small farm houses to be seen when I descended from the train. I learned that the nursery was about two miles from the station and that the mail carrier would take passengers.

While waiting for the mail carrier I talked with an old man at the store. He said he came from Holland about 20 years previously, went to Chicago, and became a huckster selling vegetables on the streets. In 1909 he came to Glen St. Mary and bought ten acres of unimproved land at ten dollars an acre. He lived in a tent and did his own cooking, cleared the land of trees and stumps, and dug a well without assistance. Now, two years later, he had several acres in cultivation and raised vegetables which he sold locally and in Jacksonville. His garden was irrigated with water drawn from the well. He liked the country and the life and said he had refused \$100 per acre for his place.

Becoming impatient waiting for the mail carrier to appear I decided to walk out to the nursery. There I met the president, Mr. Tabor, the manager and members of the office staff. The company owned nearly 1,000 acres in separate tracts and fourteen or more buildings. Their principal business was propagating orange, lemon, grapefruit, peach, pecan, and persimmon trees, grapes, small fruits and ornamentals for the south. They had a large packing house and a number of fields of from fourteen to twenty acres each of citrus seedlings in different stages of growth. One large field of young orange plants three inches high planted closely in drills had been greatly damaged by a sand storm that cut off the plants close to the ground. I was shown about the place by Mr. Hume, a technician who specialized on plant breed-

Nursery. Aside from diminutive railway station there was only a country store and two or three small farm houses to be seen when I descended from the train. I learned that the nursery was about two miles from the station and that the mail carrier would take passengers.

While waiting for the mail carrier I talked with an old man at the store. He said he came from Holland about 20 years previously, went to Chicago, and became a huckster selling vegetables on the streets. In 1909 he came to Glen St. Mary and bought ten acres of unimproved land at ten dollars an acre. He lived in a tent and did his own cooking, cleared the land of trees and stumps, and dug a well without assistance. Now, two years later, he had several acres in cultivation, and raised vegetables which he sold locally and in Jacksonville. His garden was irrigated with water drawn from the well. He liked the country and the life and said he had refused \$100 per acre for his place.

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ing. He had perhaps the most complete collection of persimmon varieties in the United States and was getting some interesting results from experiments in budding and grafting them. I was shown the old orange orchard with which Dr. Webber and Dr. Swingle did most of their hybridizing work in creating the citrange. The nursery had a block of 4,000 of these hybrids growing under contract with the U.S. Department of Agriculture. The nursery was propagating an immense number of pecan varieties and I learned that several men in the office were making private investments in pecan orchards. The nursery employed 80 men permanently, which was increased to 120 in the busy season. The soil of the nursery was a deep sandy loam, underlaid with red clay. The rainy season begins in May and lasts until October. During the winter months very little rain is expected. While I was there a tropical downpour came up suddenly, lasted more than an hour, passed as suddenly as it came, and within another hour all trace of it had disappeared, so quickly does the sandy soil absorb moisture.

Miami, May 25.

I made the trip from Jacksonville to Miami by the Florida East Coast Railway, 8.30 a.m. to 10.30 p.m. This was a most disagreeable ride. The train traveled in a cloud of dust the entire distance, the temperature was in the 90's, and the glare of the sun from the white sand was painful. Drinking water in the tanks gave out early in the afternoon and was not replenished. The dining facilities were inadequate, only one cook and one waiter being provided for a train of six crowded passenger coaches, and no stops for meals were made en route.

The country traversed did not come up to my expectations because of the small proportion of improved land and the small

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(1911)

E--618.

size and neglected appearance of the orange orchards as compared with those of California. Most of the land is level and covered with a growth of ^{fig} ~~figs~~ and palmetoes. The soil was mostly light sand with a very shallow covering of humus. The railway runs due south and the Indian River was in sight most of the time. It is a beautiful sheet of water several miles wide and separated from the ocean on the east by a sand bar which was grown up with palms and palmetoes. It is shallow in places and cranes could be seen wading in the water nearly a mile from shore. Their legs were long enough to reach bottom with twelve inches to spare. I was interested in watching the shoals of fish leaping out of the water. There were thousands of them. As near as I could judge some of them rose as much as three feet above the surface and covered a space of six feet or more. They appeared to be about twelve inches long and in the bright sunlight their sides shone like burnished silver.

I could not find the name of the superintendent of the Subtropical Laboratory in the telephone book. I inquired of a negro driver who said the garden was five miles out and he would take me there and back for \$2.50. However, when I found that the garden was only about half a mile from the hotel I refused to pay him the full amount, and he was glad to accept 25 cents, and I walked back.

I found the garden to contain only about five acres on one side of the road, and on the other side opposite was the laboratory with about half an acre of ground extending down to the beach. The road was being made into a boulevard from Miami to Cocoanut Grove and was already planted with palms and trees on both sides for a considerable distance. The garden was attractive and although

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(1911)

E--619.

small in extent it was crowded with mangoes, guavas, anonas, chayotes, oranges, grapefruit, figs, eucalyptus, magnolias, carobs, palms, acacias, papayas, coffee shrubs, Surinam cherries, pigeon peas, vanilla bean, Christmas vine, Rhodes grass, cassava, Florida beggar weed, ramie, and a host of other interesting things. The soil of the garden was very thin and within a few inches of the surface was solid, porous, white coral which crops out as a reef or ledge in many places. It is remarkable how anything can grow on it, and yet large trees seemed to thrive. Before a shrub or tree could be planted it was necessary to blast a hole with dynamite. This coral formation is soft underneath but hardens on exposure to the air. It makes beautiful building stone when sawn into blocks and is an excellent material for surfacing roads. It can be crushed to a powder with a roller and when wet it forms a hard, smooth, cement like surface. A strip of country underlaid with this coral formation extends up and down the coast for a considerable distance between the beach and the Everglade Swamp, varying in width from one to ten miles.

In 1911 Miami was a small city with several good hotels, handsome residences, and beautiful yards and streets planted with palms and semitropical flowering plants. The front yards were brilliant with the gorgeous red hibiscus blossoms. The streets were covered with crushed coral as clean and white as a tiled floor.

The second day I drove out about six miles to the new drainage canal on the edge of the Everglades. Near the city I saw a few market gardens with very little in them. Along the road were several grapefruit and orange orchards which looked rather neglected. The colored driver said that he and his father owned ten acres in bearing grapefruit trees and that the crop this year &

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(1911)

E--620.

was a good one. They sold the fruit through commission men and did not make enough out of it to pay for their labor.

We reached the drainage canal at the first dam above Miami where there was a fall of about 16 feet. The water in the canal was about 30 feet wide and the banks were made of the white coral thrown up from the canal by dredges and steam shovels. They were 18 feet or more in height and could be seen a long distance. The country through which the canal runs is perfectly level. On the side of the canal toward the city the land had been drained. On the other side of the canal the land was all under water from two to six feet deep as far as one could see. The water was alive with fish. On the side that was drained the soil was black muck, peaty in texture, and resembles the tule islands in the San Joaquin River near Stockton. It was covered with a rank growth of grass and weeds. A considerable portion of it was thickly studded with irregular, jagged boulders or chunks of discolored coral covered with sharp projections which make it dangerous for horses. The soil was undoubtedly rich but the water table was close to the surface, as shown by the water standing in the small drainage ditches that had been cut through each quarter section. The canal did not seem to have sufficient capacity to drain the immense territory tapped by it. The drained soil held water like a sponge and I could foresee that many difficulties would have to be overcome to make it productive. A few cabbage plants grown on this still looked sickly and were covered with giant grasshoppers, the largest I have ever seen.

From the drainage canal I was driven to Cocoanut Grove to the south of Miami, passing a number of fine country homes with orange orchards and groves of cocoanut palms inclosed by stone

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(1911)

E--621.

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Cocoanut Grove was a small straggling village on Biscayne Bay. A good road connected it with Miami along which were many fine residences.

Jacksonville, May 28.

The trip from Miami was made by night train and I arrived at Jacksonville early Sunday morning. I spent the day between trains sightseeing. In the forenoon I rode about the city in street cars viewing the streets and parks. In the afternoon I rode out to the beach on the ocean about twenty miles from the city. The country between the city and the beach is generally swampy in character or sandy pine wood hills covered with an undergrowth of palmetoes. Very few farm houses or residences were to be seen. The beach was hard and smooth and the bathing excellent.

Washington, May 30.

I left Jacksonville on the evening train and woke up in Georgia. En route from central Georgia northward the country was suffering from a prolonged drouth, cotton and corn were only a few inches high, and oats were being harvested.

The Pacific Coast and Other Trips.

Thus ended my first trip to the Pacific Coast. It was exceedingly interesting because all of the country west of Minneapolis was new to me. It was a new world with a different climate, soils, vegetation, people, cities and towns, as compared

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(1911)

E--622.

with condition east of the Mississippi. Not only had I learned much concerning the seed growing business and its magnitude but I saw at first hand the agriculture of different regions and conditions, and returned with a better knowledge of the cultivated lands and total area and the probable future development of agriculture in this country. I was impressed by the enterprise and optimism of the people of the West and Southwest, ^{by} ~~and~~ the high prices of both improved and unimproved land in sections remote from markets and social centers, by the rapidity with which new lands were being brought into cultivation and new machinery into use, and in the detailed report that I submitted to the chief of bureau I ventured the prediction that agricultural production in this country would greatly increase in the next ten to twenty years. My report was a voluminous affair, illustrated with photographs, and fully indexed. It was circulated among division chiefs and several offices adopted it as a model.

Photographs.

On this and future trips I carried a small pocket kodak with a Goertz lens that gave excellent results. Unfortunately the instrument got out of order at San Jose. There was no photographic establishment at the place and I had to fall back on a repairman in a bicycle shop. He did something to it. I assumed it was in good working order, not having time to have any of the exposures developed en route, and continued to use it freely. I was greatly disappointed when the films were developed in Washington to find that all exposures after leaving San Jose were blanks, the repairman having adjusted the sliding curtain in such a way that it was closed when it should have been open, and vice versa.

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(1911)

Other Inspection Trips. E623

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Many other trips were made in connection with the seed distribution work because I was determined to see with my own eyes the seed crops that were grown under contract for the government, become familiar with the conditions under which they were grown and harvested and cared for, meet the seed growers and seedsmen who annually submitted bids for supplying seed to the government, and inspect their equipment and seed stocks. Each of these trips afforded me opportunities to learn something of the topography, soils, climate, vegetation, agricultural production and possibilities in each region visited.

During the remainder of 1911 and 1912 I recall trips to Rome, Georgia, and near by points where the growing of okra seed had developed into a small industry; the trip to Darlington, South Carolina, and to Waco, Texas, where improved varieties of cotton seed were being grown under contract for the government; to Enid, Oklahoma, Rockyford, Colorado, Waterloo and other points in Nebraska, and to Sioux City, Iowa, in which regions we had contracts for watermelon, cantaloupe, cucumber, and sweet corn seed; to points in Wisconsin and Michigan where pea and bean seed were largely grown; to Hockanum and other points in Connecticut where we had contracts for sweet corn and onion seed; to the region about Portsmouth^h, Petersburg, and Richmond, Virginia, where several hundred acres of Dutch bulbs, especially narcissus, were grown; through the eastern shore region of Maryland to inspect the strawberry plantations from which we obtained plants for distribution; and to various nurseries in New Jersey and Pennsylvania to inspect their stocks of ornamentals and methods of handling them. A delightful day was spent with Mr. Bertrand H. Farr at Wyomissing, Pennsylvania, who specialized on peonies and iris wh

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which were in full bloom at the time of my visit. It would be tedious to describe these inspection trips in detail, but a few reminiscences may be of interest.

Darlington, S.C.

At or near Darlington I called upon a Mr. Boykin whom I had known in the Bureau of Plant Industry and who took great pride in showing me about the community. His story was interesting. The country about Darlington had been cropped to death. The soil was thin, sandy, and white, and it took from five to ten acres to grow a bale of cotton, and all the farms were plastered with mortgages. Mr. Boykin had broken away from the ancestral farm, graduated from an agricultural college, and for a few years was employed in the U.S. Department of Agriculture. Because of this experience he conceived the idea that good crops could be grown in his home county by the liberal use of the right kind of chemical fertilizers. He resigned his government position, returned to Darlington, went in debt for the ancestral farm, ~~and~~ obtained equipment and fertilizers on credit, and proceeded to test his theory and give a practical demonstration of what could be done. The first year was a trying one. The sentiment in the community was unanimously adverse and extremely critical of new methods. He was deeply in debt. He knew that if it was a dry year the fertilizers he had applied would go for naught and be wasted, and if this happened he would lose everything. Fortunately the rains came, the fertilizers had the desired and expected effect, with the result that he had bumper crops of cotton and maize. Nothing like it had been seen in the county within the memory of old men then living. This sensational success, of course, silenced all criticism and the

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Rome, Georgia.

All the okra seed in the United States was obtained from Rome, Georgia, and little seemed to be known about it. I spent the night at Rome, a most attractive town on a small stream. Upon inquiry I learned that most of the okra seed was grown around a little place about twenty miles north of Rome, called Castleton or Shakleton, or some such name, I have forgotten and it doesn't seem to be on the map. Also that a train made one trip a day

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(1911)

E--5 626.

over a newly constructed railway. I found the train to consist of one small snorting and chugging locomotive of primitive type, one small box car for freight, and one discarded passenger coach. I was the only passenger. As soon as we passed the outskirts of Rome I realized just how new the line was. In fact, the earth of the roadbed was still fresh and had not yet had time to settle so that there was a succession of humps and hollows on either one or both rails, which caused the coach to act much like a boat in a choppy sea. The train proceeded carefully and cautiously at little more than ten miles an hour which, of course, gave me an opportunity to observe the farms on both sides. There were no stations between Rome and the village, but the train stopped occasionally at country cross roads and the engineer and fireman would carefully place a few boxes or packages to one side of the road where the owners could find them. We passed one small village in a hollow with an old fashioned grist and saw mill. Here for almost the last time in the United States I saw ox teams hitched to wagons. The road was through wooded hills among which the farms were simply small clearings and many of the houses were simply log cabins. I shall always recall with pleasure my two hour ride over the new railway and into the heart of primitive north Georgia on a sunny afternoon in late autumn and the picture of primitive farm life that I saw. Also the evening I had with the young couple where I spent the night, one of our contractors for supplying okra seed. Both were college graduates, recently married, who had come out to live on the husband's ancestral farm. The house was of the better class and was surrounded by a beautiful lawn, some fine large trees, and many flowering shrubs. They were enjoying the ~~private~~

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hills among which the farms were simply small clearings and many of the houses were simply log cabins. I shall always recall with pleasure my two hour ride over the new railway and in to the heart of primitive North Georgia on a sunny afternoon in late autumn and the picture of primitive farm life that I saw. Also the evening I had with the young couple where I spent the night, one of our contractors for supplying oak seed. Both were college graduates, recently married, who had come out to live on the husband's ancestral farm. The house was of the better class and was surrounded by a beautiful lawn, some fine large trees, and many flowering shrubs. They were enjoying the

peaceful life of this isolated and rather primitive community, but seemed to be pleased to receive in their home someone from the outside world. We sat up late that night discussing the relative merits of city life and country life. When I asked how it was that this small, remote community, hidden away in the forests and mountains of northern Georgia, came to develop an okra seed industry, I was told that a generation or more ago some one from the outer world came into the community and began to grow okra seed which he sold to a seedsman. He prospered and within a few years all his neighbors were following his example.

Enid, Oklahoma.

Then there was the day I spent at Enid, Oklahoma. At several stations north and south of Enid we had contracts for growing watermelon seed. I could remember when what is now the State of Oklahoma was the Indian Territory, a wild country inhabited by Indian tribes, adventurers, criminals and desperadoes who had fled from other States for refuge in the Territory. I remember how I longed to take part in the free distribution of land when the Territory was opened up to settlement, but I lacked a few months of being old enough to take advantage of that opportunity. I was therefore much surprised to find that Enid was a neat, modern, progressive town with a public park, broad streets, neat cottages and bungaloes, trim public buildings, electric lights, and many conveniences and improvements not to be found in some of the older cities of the East. Here and in many other new towns of the West I observed the same thing, namely, evidence of city planning and modern improvements that many of the older cities of the east could not afford because they meant prohibitive expense in ~~xxxx~~ tearing down and remodel-

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Mid, Oklahoma.

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ing. For example, all old cities and towns throughout the world built their houses along narrow streets. As the towns and cities grew the property along these streets became more and more valuable, and when population and traffic increased the time came when it became very expensive to tear down these buildings and broaden the streets. The same was true of sewage and street car systems. But the newer towns of the west, profiting by the experience of the east, laid out broad streets at the beginning, and when they put in electric lighting, trolley cars, and sewage systems real estate values were a small factor, ~~saxthixxxxxxxfx~~. Then, too, the settlers and builders of new towns in the West were unquestionably more enterprising, mor adventurous, and more optimistic, more open minded, and more farseeing, than the ~~bism~~ business men who had grown up in the cramped quarters of the older cities. The result was that many if not all the newer towns and cities were far in advance in many things than the eastern cities. Western men understand this, of course, but most eastern people in their provincial ~~bxixx~~ ignorance and blindness do not and cannot understand it, which is one of the causes of profound difference in point of view between peoples of the two regions. Much the same difference is to be observed between the people of America and the British colonies and the mother country. Always it is the newer country or people that is most adventurous, enterprising, and informed, and the older that is narrow and provincial, and more or less purblind because so selfcomplacent and selfsatisfied with obsolete conditions created by their ancestors and not by them.

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At this I called on one of our seed contractors who drove me out to the farm of his son a few miles from the town. It was

a cold frosty morning. The carriage was old and flimsy, the harness old and not in good repair, but the horse was a magnificent creature, full of life and spirit, with proudly arched neck, high stepping and fast, and quivering with desire to run. My companion was an elderly man. We fairly flew over the dirt road of the prairie and I fully expected the horse to get beyond control and run away, or that either carriage or harness would break, but nothing happened. We stopped at a ten acre apple orchard. The trees were about fourteen years old, clean and well kept, and with branches drooping to the ground with a heavy load of bright red apples. Prairie hay had been spread under the trees so that the heavy load of apples on the lower branches might rest on the hay without contact with the soil. The owner was converting this fine crop of apples into cider because they would not sell for enough on the open market to pay for picking and hauling. While my companion was talking with his son I stood at the horses head and tried to hold him. He was impatient and nervous, dancing and plunging about, so that I had all that I could do to control him and keep him from striking me with his front feet. It was a most uncomfortable experience and I was on the point of stepping aside and letting^{ing} the horse have his run and smash the buggy, when I was relieved.

On the return trip we stopped at the little farm house of the son. It was of the small bungalow type, light and cheery, with bathroom, steam heat, and an acetilene gas plant for lighting and cooking. It had a cellar lined with concrete and filled with jellies, jams, preserves, and canned vegetables. In the barn lot were some purebred percheron horses and colts. Beautiful specimens ~~therex~~ they were.

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On another trip to this same region I stopped at a little railway station and hamlet about thirty miles north of Enid, to inspect some watermelon seed fields grown under contract for the government. The contractor and I had a pleasant ride over the prairie about ten miles to his melon fields. It was all open and slightly undulating prairie laid out in square sections and quarter sections with a wide strip left between sections for roads. These roadways were still covered with the native prairie grasses and some of them had rows of cottonwood trees planted on either side. Houses and cultivated fields were few and far between. The watermelon fields were ten, twenty, and thirty acres in size, and had been planted on new ground. The grower had simply turned over the prairie sod in the spring and planted the watermelon seed on the upturned sods. Nothing further was done until the melons were mature. The plants grew without any cultivation or attention because weeds and crabgrass had not yet made their appearance. When I saw the fields they were covered with mature melons of large size and spaced from five to ten feet apart in every direction. Some of the melons were partly eaten by jack rabbits which my companion referred to as a pest. Not far from the melon fields was a small tenant house or shack near a small stream of water. Here I saw the process of separating the seed from the pulp. The ripe melons were broken or sliced into chunks which were thrown into large wooden troughs or tanks filled with water and allowed to stand until the fleshy tissue broke down and the seed floated to the top, from which it was skimmed off, spread out to dry on canvas sheets, and then put into sacks and weighed.

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to the village it was high noon and we were extremely thirsty as well as hot. In expectation of my visit my companion had reserved a melon of extraordinary size which had been cooling since early morning in a shallow pan of water in the shade. He broke open the monster melon, exposing a great, fully ripe, crimson heart that glistened in the sunlight. Together we gorged ourselves on that deliciously cool and sweet red heart of watermelon until our limit was reached and we could only look regretfully at what was left. I have never seen a larger or better melon or one that tasted so good.

My companion had taken part in the grand rush for homesteads when the Indian Territory was opened for settlement. The Land Office had decreed that all applicants for homesteads should line up at the border at the time designated and await the firing of a signal gun, when they would be free to enter and take possession of the promised land. My informant said the line extended east and west as far as the eye could see and included all sorts of people, farmers, mechanics, lawyers, preachers, doctors, merchants, clerks, laborers, and young and old of both sexes, wearing all sorts of clothes and carrying all sorts of equipment, and most of them with saddle horses or teams and wagons, but many of them afoot. When the signal gun was heard there was a wild scramble to cross the line and disperse over the face of the country, many racing with horses or teams and others plodding away more liesurely. The greatest competition was for lots in the townsites that had been surveyed, next for desirable quarter sections near the townsites, and lastly for good farming lands near streams where water and wood would be available. He told of innumerable disputed claims that arose from individu-

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Nebraska!

Then there was the trip to points in Nebraska on the Platte River, Waterloo, Fremont, and other towns, near which sweet corn and melon seed were grown. Concerning this trip three things stand out in memory. One was the river Platte, broad, rippling, and shining in the setting sun as I stood on a long, low wooden bridge. It seemed more than a mile long and over a muddy river broader than the Mississippi, and I could hardly believe the statement that it was only a few inches deep. The second was the sight of a large field studded with thousands of round, red pumpkins. The third was the story related to me of the farmer who many years before drove into town with a load of corn, and because he was offered only thirteen cents a bushel for it hauled it eight miles back to his home. Returning with his load a few days later, hoping for a better price, and not getting it, he drove a mile or more out to the bridge and threw his load of corn into the river, saying that hard as he and his family had

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(1911)

E--633.

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This reminds me of another incident. I had hired a horse, carriage and driver to take me out to the bridge. The horse was big and old and lazy and the driver said, when I asked why the horse did not go faster, that he was one of two ^{at}~~there~~ were used for funerals. The road crossed the railroad tracks and when we reached the town we found it blocked by a freight train. So we stopped near the tracks and waited for the train to pass. ~~Then~~ At first the train was motionless and our old horse nearly went to sleep. As the train got under way the horse woke up and looked with interest at the moving cars. It was a long train of empties from the west, perhaps nearly a mile long, and it included box cars from many different railway lines in the United States and Canada. The old horse paid little attention to the first fifteen or twenty cars, but as they continued to roll by in endless procession he began to get nervous, until finally he became frantic and leaped and plunged and stood up on his hind legs like a firsky colt. I confess that I became nervous also and it seemed to me then that that was the longest freight train I had ever seen. I have not seen a longer one since. Automobiles have brought their thrills and result in many accidents and fatalities, but they happen so suddenly and are so soon over with that I doubt if they are half as terrifying as in the days of horse drawn conveyances.

Sioux City, Iowa.

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artificial drying of corn for seed. I ~~xxxxx~~ expressed a wish to see the growing fields of sweet corn seed and the firm assigned one of its employes to drive me in a buggy ~~ix~~ with a team of small, lively ponies to some of their fields. We drove to a point about twenty miles above the city across the State line into South Dakota through a section of sandy river bottom that was practically all planted to maize. We passed field after field that we estimated would yield more than 100 bushels to the acre. Our destination was the farm of a tenant of the firm, a French Canadian and his wife. They were both middle aged, nearly as broad as they were long, and quite talkative after they got over their first embarrassment at the unexpected appearance of strangers. All the sweet corn that I had seen up to that time was small and stunted in appearance, but her^e I saw fields of Stowell's Evergreen as ~~large~~ as field corn in both stalk and ear. I recall one field with a very poor stand that had been flooded; in fact not more than half a stand. The farmer shrugged his shoulders deprecatingly and said that the flood and a cold wet spring had ruined the stand and he had intended to plow it up but was prevented by wet weather and other work, and yet we estimated that ~~this~~ poor stand would average not less than forty bushels to the acre. We accepted a pressing invitation of the old couple to take dinner with them, which we thoroughly enjoyed. After the meal the farmer brought out a bottle of sherry wine, which I drank with some misgivings, because up to that time I had rarely tasted wine and somehow still felt that it was highly immoral, but I drank it to avoid offending our warm hearted hosts. After drinking a glass of this harmless wine and feeling better for it I began to think that perhaps some of the things I had been taught

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to believe might not be so absolutely true as I had thought.

New England.

Of the trip to New England I recall the magnificent elms to be seen in the Connecticut Valley, especially near Hockanum, the homelike and quiet beauty of many of the small towns and villages of Massachusetts, with their green lawns, graceful elms, and plain white, clean houses; the inspection of the beautiful parking system of Boston and its suburbs in company with a cultured seedsman of that city, and my first sight of Cambridge and Lexington where some of my ancestors lived, followed by a whole day spent in studying the wonderful collection of trees and shrubs in the Arnold Arboretum.

These trips, all carefully planned in advance, in which I systematically interviewed seedsmen and growers, inspected their warehouses, equipment, and growing fields, together with close observation of all that was to be seen en route and at the places where I stopped, followed by the preparation of detailed written reports upon my return to the office, and illustrated by photographs, and the checking up of my own observations with those of specialists in the Bureau of Plant Industry, were the means of a liberal education in plant breeding, horticulture and agriculture that began to give me some standing in the technical staff of the bureau. These trips also made an agreeable break in the office routine connected with the administration of the seed distribution.

The Clerical Force.

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ing appropriate replies, but because of the human characteristics of the office force. Some were painstaking and conscientious and others careless, some ambitious and hard working and others indolent and indifferent, some naturally courteous and obliging and others self-centered and rude, some prompt in reporting for duty and others habitually irregular in the time of their arrival, and all subject to physical indisposition and variations of temper, and each and every last one of them felt that he or she was entitled to promotion. It was a part of my task to keep these different personalities working together harmoniously and efficiently.

Many interesting situations arose. There was the young man that was a demon for work and such an exceptionally rapid, accurate and efficient stenographer and typewriter, but of a morose, sullen disposition, and who ultimately became mentally unbalanced and had to be placed in an institution, after he had threatened some of his fellow clerks by displaying a loaded revolver and a knife with a wicked looking blade and suggesting with a scowl that they had better behave.

Then there was the rather bright Jewish young woman from New York City who had been certified by the Civil Service Commission and came to Washington to accept a position in my office. I received her courteously and asked a few polite questions about the nature and extent of her previous business experience. These she answered readily enough, but immediately overwhelmed me with a series of questions about the nature of her duties, the hours of work, the particular office space and equipment that would be assigned to her, and as to her initial salary and prospects for advancement. Then we ran into a snag. She asked when her

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(1911)

E--637.

salary would begin. I said it would begin with the day she entered on duty, unless it should be the 31st day of the month, in which event it would begin on the first day of the following month. It so happened that this was the 31st day of the month. "What," she said, "do you mean to tell me that if I begin to work today, the 31st, I will not be paid for it.?" I answered, "Yes, the Comptroller of the Treasury has ruled that for accounting purposes all months have only thirty days and there is no authority of law to pay any one in the government service for working a thirty-first day, but if you don't work on that day pay for one day will be deducted from the monthly pay." She flounced out of the office, after saying indignantly that it was a swindle and an outrage and that she proposed to have her member of Congress put in a claim for her traveling expenses from New York to Washington and return.

Then there was the question of color. Up to about 1910⁹_K there were very few if any colored employes in the Department of Agriculture other than a few messengers and laborers. It was believed by administrative officials & that an essential factor of efficient service was a certain degree of mutual respect, congeniality and harmony among the clerical employees and it was generally felt that to introduce a colored man or woman among a force of white clerks, especially young white women or men from the South, would cause embarrassing situations and interfere with efficient service. In other words, the officials felt that they were not responsible for the prejudice against colored people but they had to take cognizance of it in order to promote or preserve good feeling, esprit du corps, and efficient service in their offices.

salary would begin. I said it would begin with the day she entered on duty, unless it should be the 1st day of the month, in which event it would begin on the first day of the following month. It so happened that this was the 1st day of the month. "What," she said, "do you mean to tell me that if I begin to work today, the 1st, I will not be paid for it?" I answered, "Yes, the Comptroller of the Treasury has ruled that for accounting purposes all months have only thirty days and there is no authority of law to pay any one in the government service for working a thirty-first day, but if you don't work on that day pay for one day will be deducted from the monthly pay." She flounced out of the office, after saying indignantly that it was a swindle and an outrage and that she proposed to have her member of Congress put in a claim for her traveling expenses from New York to Washington and return.

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Civil Service examinations were open to blacks as well as whites. Early in the century colored young people with schooling began to take these examinations and to pass them, and the names of those who passed were entered on the eligible registers of the Civil Service Commission. When a government office needed a new employe it called upon the Civil Service Commission which sent back a certified list of the names of the three candidates at the top of the register. The supervising officer had the privilege of selecting any one of the three. In the early days there was nothing in the papers to indicate whether a candidate was white or black except occasional peculiarities of name or personal description. As a rule surnames were of little help, but sometimes a given name would furnish a clue, such as Napoleon Bonaparte, or Julius Ceasar, or Commodore Kerosene, and the like. The probability that such a candidate was colored would be greatly strengthened if he gave New Orleans, or Jackson, or Birmingham, or Charleston, as the place of his birth. However, in spite of the utmost caution on the part of those who made selections from the civil service lists a colored man or woman would occasionally be appointed, report for duty, and cause all sorts of trouble in trying to place them. Such a case occurred in the Bureau of Plant Industry. One morning the chief clerk telephoned that he was sending over to me a young colored mulatto who had been appointed as a stenographer. Asked how he came to make the appointment he replied that the young man had a German name and was from Chicago. (At that time there were very few negroes in Chicago.) When I asked why he was unloading the negro on me he replied that I was from Texas and ought to know how to handle negroes. I replied that if the young man was decent and efficient

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I could use him to advantage. The new man came to my office within a few minutes and seemed to be a self-respecting quiet young man, a mulatto, and extremely desirous of being of service. I put him in a small room adjoining my office with a messenger boy. He was a good stenographer and so unassuming, courteous and obliging that he soon made friends and his color was forgotten. He was dilligent and efficient and stood high on all the efficiency registers so that he received promotion in regular course. Later he was transferred to the office of the chief clerk of the Department and continued to advance.

A case of another kind arose soon afterwards. I had asked for a new stenographer. From the three names certified for the position I rejected two because they were from the South and selected the third because he was from Boston. His name was Ivory White, which should have aroused my suspicions but for some reason did not. The papers showed that he was a college graduate and had been employed as stenographer in a doctor's office in Boston. Imagine my surprise when one morning a large, very black, and rather insolent looking negro came into my office and announced that he was Mr. Ivory White of Boston and ready to enter on duty as my stenographer. He forgot to remove his hat and his whole bearing was truculent. One glance at him was enough to show that he was looking for trouble and instantly I decided that he should not be disappointed. Uninvited he had taken a seat near me, crossed his legs, adjusted his hat on the back of his head, and lit a big cigar. For a moment I said nothing. Then looking at him quietly I said, "Pardon me, Mr. White, I did not know that it was the custom in Boston for gentlemen to keep their hats on or smoke cigars in offices. It is

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not the custom in Washington. You will find a hatrack in the hall and a cuspidor in the corner," and then I concentrated my attention on a pile of correspondence on my desk. ~~He~~ I was conscious that he hesitated a moment and then that he went out into the corridor and disposed of his cigar. When he returned and was about to ~~xit~~ resume his seat I looked up and said rather sharply "Wait a moment, Mr. White, that seat happens to be reserved; it is not necessary that you sit down until we find out whether you are competent to do our work." Some of his insolence began to ooze out of him in the form of perspiration, but he was by nature defiant and ugly. Then I began to cross-question him about his education, his business experience, the wages he had earned in various capacities, what kind of shorthand he wrote and how many words per minute, and what he knew about the seed business, about botany, zoology, plant breeding, Mendel's law, the chemical elements of fertilizers, and other technical matters of which he had to confess ignorance. As the scowl on his face deepened with his perplexity I became more and more cheerful and polite and in my suavest manner ~~xit~~ pointed out to him that our stenographic work was highly technical and done under great pressure so that dictation was necessarily rapid and that only experienced experts could hope to succeed in holding a position in the government service. I was seriously in doubt whether he had either the expertness as a shorthand writer or office experience to do our work, but the only way to find out was to try him and give him every opportunity to demonstrate what he could do, but if he could not do the work, of course he could not expect to be retained in service. I asked if he was ready to begin and he said he was. I rang for a messenger and sent

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(1911)

E--641.

for notebook and pencil. While the messenger was out I reminded Mr. White that under the civil service law his appointment was only a probationary one and that he could be dropped at any time during the probationary period if his service was not satisfactory. When paper and pencil arrived I motioned him to a seat on the opposite side of my desk and charged him to take my dictation just as I gave it, the spelling of proper names, punctuation and words, and not to interrupt the dictation. I had already looked over the correspondence and had made shorthand notes that enabled me to ~~be~~ dictate without hesitation. After watching anyone write shorthand a few minutes I could tell exactly about how fast they could write. For awhile I paced Ivory White just fast enough or slow enough to let him think or hope he was keeping up, and then I gradually increased the speed until I could see that he was losing at least a third of the dictation. After the dictation and instructing a messenger to provide Ivory White with a typewriting machine and chair I said rather peremptorily, "White---White, I expect to leave the office in two hours and want the letters on my desk ready for signature by that time. Make three carbon copies of each." It was a very much wilted Ivory White that retired to another room to struggle with his notes. After a short interval when I judged that he was getting acquainted with a strange typewriter I rang for him. A messenger came and I called out loudly to send in White. Ivory~~xapexarexx~~ appeared eather perplexed and worried but still ugly and defiant. ~~Ixxasked~~He was in his short sleeves. I looked at him steadily and asked "Is it the custom, Mr. White for gentlemen stenographers to work in ~~theirxxx~~ Boston offices and appear before their employers in their shirt sleeves?"

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He hesitated and looked ugly. "Out with it, and tell the truth." "Yes," he answered. "Yes, what," I demanded. "Yes, sir," he answered, evidently in bad humor. "That's better," I said; "also you should know that it is not the custom in Washington for employes to forget the title 'Sir' when speaking to their official superiors, and its a hanging offence to appear before them in their shirt sleeves without express permission. Have you finished that first letter I dictated?" He admitted he had not. "Where's your nôtebook and pencil" I asked. He said it was on his desk. "Next tîme I ring for you" I said, "dont forget your coat and your notebook. But, never mind go back and get those letters out so that I shall not have to wait for them. I'll get another stenographer."

As soon as he had disappeared I stepped into Professor Piper's office in the Forage Crop Division and asked if he had any manuscript on hand that he would like to have typewritten. He said he had. Then I explained that I had drawn a buck negro from Boston through the civil service who was ugly and inclined to give trouble and the best thing to do was to eliminate him from the service as quickly as possible on the ground of inefficiency; that I would be prepared to prove by carbon copies that he could not handle my work and as soon as it was turned in I would send him over to Forage Crops, and I suggested that he read a technical manuscript on the botany of grasses straight through without pausing, and insist on extra carbon copies. and give the man a time limit in which to do the work. Prof. Piper grinned. Then I walked over to the office of the chief clerk of the bureau and explained the situation, which he understood instantly and smiled.

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I then took White over to the chief clerk and explained ~~that~~ that Mr. White had experienced difficulty with the technical work of my office and of Prof. Piper's office, but may be he could do good work in the business office of the Bureau. "Sure," said the Chief Clerk, "he can sit on one side of my desk and my regular stenographer on the other, and if he makes good I can use him." I foresaw the finish of Ivory White under those conditions, because the larger part of ~~his~~ ^{the chief clerk's} correspondence was of such a nature that it could have been handled with printed forms, but he persisted in repeating all the stereotyped phrases. I knew that his stenographer had these set forms memorized and simply wrote down

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the names and addresses and a few other essential data^a and supplied the rest from memory. ~~No~~ ^{Otherwise no} shorthand writer living could have taken the dictation of the chief clerk as he rattled off routine matter ~~otherwise~~. Poor Ivory fell flat at the first onslaught and was told that he was incompetent and would have to be rejected.

The next morning Ivory and the entire Congressional delegation^{from his State} called on the Secretary of Agriculture. They were referred to the chief of the Bureau of Plant Industry, who sent for the chief clerk. The chief clerk appeared before them and said that Ivory was clearly incompetent, and then passed around the carbon copies from my office, from Prof. Piper, and from his own office, and said, "Gentlemen, that's the kind of work he turned out for three different men who have never had any trouble with their stenographic help." One member of the delegation passed the copies to Ivory and asked what he had to say about it. He was sufficiently intelligent to realize that he was in a situation where insolence and bluff would not help his case, and in the face of the urbane and smiling chief clerk he was abashed and silent. The delegation withdrew its protest, apologised, and withdrew. Later I learned that Ivory was something of a political boss among the negroes of Boston, which accounted for the solicitude of the Massachusetts delegation, and that a job had been found for him in the Post Office Department.

The Bliss Properties.

Then there was the round we had with the proprietor or agent of the building we rented and used as a seed warehouse on Winworth Place. It was a four story brick structure in which

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several hundred tons of seed were stored, a battery of seed packeting machines was operated, and a force of nearly a hundred laborers, including many young women, were employed. There were no fire-escapes and the elevator was constantly getting out of order, and the agent for the building was very independent and dilatory in having it repaired, as well as other necessary repairs to the building, which was the cause of much inconvenience to the office. Nevertheless, on the first day of each month, in the early morning hours, the agent sent a man to me for signature to the rental voucher so that it could be taken to the disbursing office and the check gotten the same day. Correspondence about needed repairs had dragged along for several months without result until I lost patience. I stepped over to the office of the Chief of Bureau, Dr. Galloway, and said, "Doctor, you have made me responsible for the proper conduct of the Congressional Seed Distribution, which includes supervision of the seed warehouse and the protection and safety of the property and personnel employed in the building, as well as the enforcement of all legal obligations of the owner relating to the building. I am disgusted with the inexcusable delays and propose to bring the proprietor and his agent to terms by refusing to sign any more rent vouchers until the letters I have written shall have been answered and the necessary repairs satisfactorily completed. How about it; will you back me up?" He smiled and his eyes sparkled as he said, "Certainly, go the limit; it is your official duty, and I shall refuse to intervene or approve any voucher that does not carry your signature."

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On the first day of the following month when the messenger of the agent appeared with a rent voucher for me to sign, I simply placed it in a drawer and said that it would have attention at the proper time. Half an hour later there was a telephone call from the agent asking about the rental voucher, to which I replied that I could not discuss it over the telephone, and I hung up. Shortly afterwards he appeared in my office and asked rather arrogantly the cause of the delay in signing the voucher. I said, courteously, that I was sorry that I could not discuss the rental voucher until I ^{should} ~~shall~~ have received satisfactory replies to the letters I ^{had} ~~had~~ addressed to ^{him} ~~you~~ on such and such dates, naming them. He protested that they would be answered in due time. I said ~~xx~~ I was sorry but they had not been answered yet and until they were answered and until the necessary repairs to the building ^{were completed} and the building regulations of the District of Columbia had been complied with I simply could not take the time to even look at or discuss his rental voucher. He began to bluster, when I said "Excuse me, sir, but I happen to be very busy, my time is valuable, Good day." He gave me a hard look, snorted, and strode through the door. A few minutes later Dr. Galloway called me up on the telephone to say, "Well, Estabrook, your scheme seems to be working. The agent called a few minutes ago and was inclined to be obstreperous until I told him that you were the only official in the United States government authorized to certify to the correctness of the voucher for the rental of the seed warehouse and that he would have to deal with you." The next day the agent again appeared in my office and was very conciliatory in manner. He brought with him a letter acknowledging receipt of the letter I had written

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him and on the strength of this concession and his personal assurance that the repairs would be made he asked me to sign the rental voucher without delay. I said "My only interest in this matter is in seeing that the law regarding elevators and fire escapes is complied with and until that elevator ~~XXXXXXXXXX~~ is put in good running order and those fire escapes are installed I shall not take the slightest interest in the rental voucher that you seem to think so very important. But wait a minute, and I rang for a stenographer to whom I dictated a letter to the Commissioners of the District of Columbia calling attention to the fact that the building used as a seed warehouse was without fire escapes and had a defective elevator contrary to the regulations of the District that was a ^e menace to the lives of many government employes and asking that the regulations be enforced. This in the presence of the agent. Then I added, "Excuse me, but I'm busy, my time is valueable, Good day." He took the rather broad hint, but left reluctantly.

As soon as the agent had left I walked to the office of the District Engineer Commissioner, presented the letter I had dictated regarding the elevator and the fire escapes, and asked if the department could not bring pressure to bear upon the agent to either penalize him or compell him to comply with the regulations. He said they would be glad to do so, and they did.

A few days later workmen began on the repairs and the agent called and asked that I approve the voucher so he could get the rent without further delay. I assured him that it would be useless to discuss the matter until the work was completed, and that if there was any delay it was due altogether to the fact that for more than three months he had paid no attention to my letters.

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I added that I would feel fully justified in withholding ~~the~~ approval of the voucher for three months, but would probably approve it without delay as soon as the District Inspector certified that the repairs were properly completed and the regulations complied with.

This was done, but in a few months the question of the renewal of the lease came up and the agent demanded an increase of \$1,000 a year in the rent. I took the letter at once to the chief of bureau and asked if he would approve another location for the seed warehouse if I could find a suitable one at the same or a lower rental, and he said he would. After going through southwest Washington with a fine tooth comb we succeeded in renting the old Globe Building on Pennsylvania Avenue at a considerable saving in rent and with more space for the growing seed distribution.

The Seed Bids.

Then there was the excitement of examining ~~and awarding~~ competitive bids and awarding contracts for supplying the seed months in advance of the distribution. Usually orders were placed for slightly more seed than was estimated would be required to allow for incomplete deliveries caused by partial crop failures, and by rejections of seed that failed to meet contract specifications, especially in the matter of germination. Sometimes, however, in spite of precautions, the cancellations for various reasons reduced the quantity of seed deliverable below the necessary quotas, in which event emergency purchases had to be made. One such purchase was made under unusual circumstances. The head of a large California seed firm passing through Washington

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came to my office and asked if we would need any more garden peas. I said probably not, but I would make a memorandum of his surplus on the chance that we might need some. He said he had between 5,000 and 6,000 bushels and named the varieties and gave me a price of \$2.65 a bushel. My stenographer was present when I said, "You make that as a definite offer subject to acceptance by telegraph," and he said yes. Then I asked and he gave me his itinerary and stopping points so that I could reach him en route if necessary. By a singular coincidence that same afternoon or the following morning I received a report from Mr. Tracy, Sr., to the effect that while the peavines of Wisconsin and Michigan hung full of pods, the pods were mostly empty, which he attributed to heavy rains at blossoming time, and that no one else seemed to have noticed this condition, but it surely meant a serious pea seed shortage the next fall. Naturally I did the obvious thing by telegraphing to the California seedsman that his pea seed offer was accepted. Within a week the news that garden pea seed would be scarce leaked out and the price doubled over night. I received a letter from the California seedsman asking to be relieved of his contract because it was made under a misapprehension of the facts, which I turned over to the solicitor of the department, who held that the offer of the seedsman and my telegraphic acceptance constituted a government contract which he could not avoid. I felt pleased to think that by my foresight and prompt action I had saved the government more than \$10,000 on this one item, but I confess that my sympathies were with the seedsman. He was game, however, and delivered the seed.

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The last seed contracts with which I had anything to do were opened in the spring of 1913. Always before they had been treated as strictly confidential by the chief of office and his immediate assistants in secret session. The whole seed trade was said to be one of the most secretive of all industries, each member trying to keep his competitors from knowing what he was growing and where, and how much he had in his warehouses. Many of them submitted ridiculously low bids to the government seed office and then misrepresented the facts to his competitors, and this led to all sorts of rumors about dishonest conduct and favoritism and partiality in the seed office. I happen to be instinctively opposed to secrecy and if anything makes me see red it is false rumors and insinuations of dishonesty. I determined to end it so far as the seed office was concerned. When I sent out calls for competitive seed bids I announced that the bids would be opened in public and all seedsmen or their representatives were invited to be present. Various officials in the bureau were tremendously apprehensive of this action, but the chief of bureau only smiled when I showed him the letter I had sent out. In fact he seemed to think it was a good joke on the seedsmen. I had announced in advance the hour and minute when the bids would be opened in my office. At the appointed time the room was crowded to capacity by seedsmen or ^{their} representatives. Also there was a group of Plant Industry officials present with white faces. At the stroke of the clock I called the meeting to attention and said, in effect, "Gentlemen, we are required by law to buy seeds from Congressional distribution. ~~The Attorney General has held~~ Congress and not

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(1913)

E--651.

the Department of Agriculture is responsible for the free seed distribution. The Attorney General has held that the law is mandatory and the Secretary of Agriculture has no discretion in the matter and is subject to impeachment and dismissal from office if he refuses to ~~obey~~ obey the mandate of Congress. All that we can do in the circumstances is to see that we ~~buy~~ obtain the best seed and the most seed that the money appropriated by Congress for that purpose will buy. The law requires that competitive bids shall be obtained, but it also provides that only the 'most advantageous' bids shall be accepted, and we interpret that to mean three things, quality, quantity, and price, so you must understand in advance that the awards will be made on these three considerations and not on price alone. This is public business and I can think of no good reason why any seedsman or citizen should not be present at the opening of the bids and be entirely free to examine the bids of his competitors, and if any seedsman has got anything to say now or hereafter I hope he will be man enough to say it in the open. The seedsmen present were silent, but the little group of bureau officials who were there to see that I made no bad breaks looked relieved and even smiled. Then I opened the bids, read off some of the principal items, and passed the papers around. For the rest of the day my office was like a school room, the seedsmen and representatives of seedsmen diligently copying off the quantities and prices of their competitors, which to them was a revelation and exceedingly interesting. In the afternoon some of them brought public stenographers ~~to~~ with them to facilitate their work. That method of handling the bids effectually put a stop

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to rumors and underground insinuations and thereafter I was prepared to challenge any critic of the seed distribution, not only because I knew that everything was straight and aboveboard but I had begun to feel that I knew about as much of the seed business as anyone else.

Bellingham.

My last trip of inspection in connection with the seed distribution was to the bulb garden near Bellingham, Washington, early in April of 1913, with the intention of following about the same itinerary as in 1911, that is, returning by way of Oregon, California, and back ~~by~~ through the Gulf States. My wife accompanied me and it was a joy to see the interest she took in everything. I recall that we changed cars either at Chicago or St. Paul. At any rate, we left St. Paul in the early morning in a comfortable Pullman and all day long rode across the beautiful State of Minnesota with its fine farms, groves, and innumerable lakes. Opposite our section was a dignified British gentleman and his equally dignified sister, who were a source of delight to me and the object of great curiosity and interest to my wife, because both spoke with a marked British accent and both wore gloves all day. Nearly every seat in the Pullman coach was occupied, belongings were scattered about, and in the afternoon strangers had begun to converse with each other and all began to feel more or less acquainted. Late in the afternoon, just before sunset, the train slowed up at the station platform in Fargo. The colored porter walked through the coach and said in his most cordial manner, "Ladies and gentlemen, the train stops here for fifteen minutes; don't you all want to step out and walk around

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(1913)

E--653.

the square whilst I picks up things a little?" We were all somewhat fatigued with the long day's ride and all of us with one accord got up and went out. As we passed out I spoke to the porter at the platform ~~steps~~ steps and said, looking at my watch, "We have fifteen minutes, have we?" and he replied "Yassir, yassir, fifteen minutes." So the passengers in our coach began to walk slowly up the street, around the square, and back. ~~Passengers~~ ^{we} ~~In five or ten minutes my wife and I returned and other passengers~~ returned to the station platform. I was surprised to see that our train was no longer there, but looking down the track I saw a train yard and sheds about a quarter of a mile away and ^{we} ~~smised~~ [^] that the train had gone there for coal and water and the usual inspection and that it would return for us in a few minutes. There were about twenty-four in our party, most of them without hats and coats, and one little lady had a baby in her arms. All were tranquil, some talking and others walking back and forth for exercise. I had been watching the changing colors in the sky as the sun sank below the western horizon. Suddenly I pulled out my watch and realized that instead of fifteen minutes nearly thirty minutes had elapsed since we left our coach. I stepped quickly into the station and caught the ticket agent just as he was about to leave. "Why," he said, "that train stopped here less than five minutes and is now long on its way." I explained what had happened. He expressed regret but did not seem inclined to do anything about it. The other passengers who had gathered about seemed to be stupefied. Then I said, "See here, I am an official of the United States government and traveling on official business. My fellow passengers have paid their fares. The Pullman porter on our coach invited us to get out

(1913)

E--654.

and take a walk, assuring us that the train would not leave for fifteen minutes. Now the train has gone on its way with all our personal belongings, leaving us stranded. That was misrepresentation by an employe of the company and the company will be held responsible not only for all expenses involved ^{and} for the loss of any of our belongings, but in a good round sum for damages. It is up to you as agent for the company to telegraph that train to return for us or to leave our belongings under guard at some station along the route and then arrange for a special train to take us on and pick our things up. In the meantime you must arrange for our meals and lodging and attendance." The agent replied that everything possible would be done to correct the mistake and to make us comfortable, and that arrangements for transportation to our destination would be made by telegraph. In the meantime he suggested that we get something to eat and return later for information as to the program that might develop. Our party kept together and in a body marched up the main street to the hotels in the center of town, only to find that a convention of Shriners was in town and the hotels were overflowing. It was impossible to obtain tables and seats. I suggested that we return to the small restaurant near the railway station that did not seem so crowded and this met with approval. The British fellow passenger, who said he was a clergyman, walked with me and bemoaned our mishap and kept repeating, "It was such a nice coach, and such a nice diner." We marched into the little restaurant, much to the consternation of the propriet^{ress}~~or~~ and the two waitresses. We took possession of all the tables and chairs and called for something to eat. It was a cheap place and the tables were covered with oil cloth, the dishes were ~~heavy~~ coarse,

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thick and very heavy, and the knives and forks were old, badly worn, and not very clean. The bill of fare was limited. I said to the proprietress, "Bring us anything you have and the best you^r have," and I have no doubt she did. No doubt, also, the two poor, tired, overworked and poorly paid waitresses did their best to serve twenty-four tired, exasperated, and hungry people who had descended upon them so suddenly and unexpectedly just at quitting time. The food was plain, the dishes unattractive, and the service necessarily slow. However, most of our party understood the situation and took things philosophically and were thankful it was no worse. Not so with the British clergyman and his sister. He called out in a booming voice for roast beef, potatoes, cabbage, and other things he thought he would like to have. Then he began to bemoan our misfortune and said "It was such an extraordinary thing that the boy should have told us to get out and walk and the train should go off and leave us in a town like this; and it was such a nice coach we had, so comfortable, so pleasant, and we had such nice food ⁱ on the dining car. It was such a nice dining car; and now see what we have." Just then the waitress brought his order and he eyed it askan^age. He jabbed the thin piece of roast beef with his fork and tried a dull knife on it. Then he roared at the waitress in a booming voice "Take it away, take it back, I won't have it: this is not roast beef; I want a piece of roast beef." The waitress eyed him uncertainly and murmured that it was the only kind of roast beef they had. "Never mind," roared the Britisher, "take this back and bring me a piece of roast beef." She removed the offending dish but did not return, being kept busy serving other people.

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(1913)

E--656.

As time passed my British companion fumed and fretted and expressed his feelings in his booming voice that could be heard over the room to the quiet amusement of his fellow passengers in distress, but he refused to eat anything because he could not have the kind of roast beef he wanted.

On returning to the railway station the agent informed us that arrangements had been made for us to leave by train at 11 p.m. and return to a junction point, where we would spend the night, and a through train with an extra Pullman would pick us up in the morning and that we could get our personal belongings at Devil's Lake where they were being held under guard. At 11 o'clock we boarded the train and shortly after midnight reached the Junction and were guided to a nearby hotel. The accommodations were limited and there were not enough beds for married couples and single persons and it was necessary to separate the men and women so that two could occupy each bed. In the pairing off that took place it fell to my lot to sleep with the British clergyman and my wife with his sister. While I was not particularly happy over this arrangement and the events of the day, nevertheless I got a good deal of satisfaction listening to my British companion grumble and bewail his fate and his profound regret that we had been turned out of "such a nice coach." It was while he was undressing that he told me he was on his way to some place in British Columbia to take charge of a church.

The next morning we were awakened early, dressed in cold poorly lighted rooms, had a very plain breakfast, and were herded over to the railway station in time to see the great trans-

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The next morning we were awakened early, dressed in cold poorly lighted rooms, had a very plain breakfast, and were herded over to the railway station in time to see the great trans-

continental train of luxurious Pullman coaches slow up and come to a stop. What a sigh of relief we all gave and with what a friendly smile we looked into each other's faces as we settled back in the comfortable seats to rest and enjoy the landscape. The train reached Devil's Lake about noon. We found our belongings piled together in a pyramid in the center of the little waiting room with an employe of the company standing guard. Each had to identify and claim his own property. I was especially concerned about an expensive camera that the Department had bought for my use because it was government property and I was responsible for it. As a matter of fact nothing was missing and we were soon on our way. It was a trying experience while it lasted but "All's well that ends well," and the common experience broke down the barriers between our party of strangers and we were very friendly during the remainder of the trip. Our British preacher friend became somewhat mollified when I assured him that if he would send a memorandum of his extra expenses to the headquarters of the railway company he would be reimbursed. I did so later and received a check with a polite letter explaining that the colored porter who invited us to leave the coach at Fargo was on his first run and had misunderstood the announcement of the conductor. The remainder of the trip was without incident, but was very agreeable and interesting.

Seattle and Everest^T.

We changed cars at Seattle and stopped off between trains at Everest to see my Sister Nellie and her husband who was superintendent of a large flour mill at that place. Sister Nellie was glad to see us and had prepared an excellent dinner of

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fried chicken, mashed potatoes, gravy, hot biscuits, and vegetables, desert, and tea, enough for a large family. In the afternoon her husband showed us over the great flour mill of which he was in charge and then we were shown over a large saw mill near by. A considerable area, several acres in extent, in the Sound near the shore was covered with immense floating logs ranging from six to twelve feet in diameter. Men with poles armed with a steel hook at the end would push and pull one of these great logs until it was in position for an endless chain carrier to take it quickly up an incline out of the water on to a frame. Here the log would be quickly rolled into position, clamped, and carried against the gigantic saw which ate through it like a hot knife blade through butter. I was astonished at the ease and celerity with which these enormous logs weighing many tons each were handled and converted into lumber.

Bellingham.

We found Bellingham and the bulb garden very attractive. The bulbs were in full bloom and made a gorgeous display. Vegetation was fresh and city yards and gardens were attractive. The Sound, the islands in it, and the mountains to be seen in different directions, were lovely. It happened that the postmaster of Bellingham, a middle aged gentleman who had lived there many years and was deservedly popular, had visited Washington and formed the acquaintance of a near neighbor of ours. She had written to him in advance of our coming. He called at the hotel and virtually took charge of us. He had one of the original Ford cars that was somewhat dilapidated in appearance but was still in good running order and in it he took us to the bulb garden, around the country roads near the city, and one day started to

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many tons each were handled and converted into lumber. the ease and celerity with which these enormous logs weighing it like a hot knife blade through butter. I was astonished at clamped, and carried against the gigantic saw which ate through a frame. Here the log would be quickly rolled into position, carrier to take it quickly up an incline out of the water on to of these great logs until it was in position for an endless chain poles armed with a steel hook at the end would push and pull one ing logs ranging from six to twelve feet in diameter. Men with tent, in the Sound near the shore was covered with immense floating saw mill near by. A considerable area, several acres in ex- of which he was in charge and then we were shown over a large the afternoon her husband showed us over the great flour mill vegetables, dessert, and tea, enough for a large family. In fried chicken, mashed potatoes, gravy, hot biscuits, and

take us to a town about thirty miles distant. Unfortunately it rained hard and steadily all day and our trip was spoiled. However, we had an opportunity to see a section of the primeval forest with its dense growth of enormous fir trees, six feet or more in diameter and towering a hundred and fifty feet or more in height, and the tangle of dead logs lying between them that had fallen in the years gone by. There were many places where it would have been exceedingly difficult for man or dog to make his way through.

One sunny day our friend took us ~~inxxxxxxxx~~ to his residence for luncheon. He was a widower and had a comfortable house with several acres of ground on a high bank overlooking Puget Sound. The grass and clover in the front yard was knee high, the vegetables and small fruits in his garden were growing luxuriantly, and banks of blooming roses climbed everywhere. For luncheon a fresh planked salmon was served, followed by an abundance of large ripe strawberries and cream. After showing us over the house and grounds we sat for awhile in his comfortable, home-like sitting room and listened to a series of old time melodies on his phonograph. It was all very pleasant.

Our new found friend was a widower, was without children, and a niece was keeping house for him. My wife, who by instinct, predilection and aptitude should have been at the head of a matrimonial bureau, was quite persuasive in suggesting what a good thing it would be if he would marry our neighbor in Washington, who was a single lady with attractions, to all of which our friend simply smiled indulgently with a far away look in his eyes.

Another pleasant incident of our visit was a trip our friend provided in a launch across the ~~Sound~~ bay to a point of

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Another pleasant incident of our visit was a trip our friend provided in a launch across the ~~xxxxxx~~ bay to a point of

land that jutted out into the bay several miles from Bellingham. A local Indian tribe was having its annual festival and fish bake. There were more than a hundred Indians and a few white men at the rendezvous and many of the Indians, especially the women and children were dressed in native costume. Our friend was known to all of them and, in fact, when a young man had been adopted into the tribe. My wife was especially attracted by the Indian children who had such big eyes and solemn faces. As a souvenir^e of this pleasant occasion I picked up from the beach one of many smooth round ~~stones~~ flat stones a few inches in diameter that were as symmetrical as if turned out by a machine and have used it ever since as a paper weight.

The principal purpose of my visit to Bellingham was to inspect tracts of land suitable for an experimental bulb garden, as the original ten acre tract used by the government for that purpose was badly overcrowded and the lease would expire in another year. It seemed clear that we would have to decide whether it would be more advantageous to renew the present lease and dispose of the surplus bulbs, or lease a larger tract and continue to increase our stock of bulbs. In company with our bulb expert, a real estate agent, and a member of the Bellingham Chamber of Commerce, I visited several tracts, took samples of the soil for analysis, and was supplied with complete data on which to base a report and recommendations.

Then came a surprise in the form of a telegram from Dr. B.T.Galloway, who was acting as Assistant Secretary of Agriculture, to the effect that the new Secretary of Agriculture, David F. Houston, wished to appoint me as chief clerk of the Department to help reorganize it on a business basis, and asking when I

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(1913)

E--661.

could report for duty. I telegraphed my acceptance of the new post and said I would return immediately. This meant, of course, a complete change of plans and the abandonment of my seed inspection trip. I regretted this, especially on account of my wife who had never seen California or the great Southwest. I judged from the telegram I had received that the matter was urgent, but as it turned out we could just as well have ^{completed our trip} ~~returned~~ by the southern route.

W

Return to Washington.

62 7 We came back by way of Ogden, Salt Lake City, the Royal Gorge, Boulder, Denver, Kansas City, St. Louis, and Cincinnati. We came through the Royal Gorge in an open flat car fitted up with seats and were duly impressed by the towering cliffs that almost seemed to meet over head, the depth of the chasm, the rushing torrent below, and were glad when we were out of it. At Boulder we had to spend the afternoon between trains. I remember that it was insufferably hot. To avoid additional expense we did not go to a hotel and take a room as we should have done, but walked the streets and sat in a public park that was hot and dusty and the vegetation shrivled up with the heat. We got supper at a cheap restaurant and walked the streets some more until train time. I had neglected to make sleeper reservations in advance and the best I could get was an upper berth. My wife had suffered all day with the toothache and had said little about it, but when we entered the hot stuffy sleeper and she found she was expected to climb into an upper berth with no open window for ventilation and fresh air she fairly broke down and began to whimper for the first time in our married life. I could not blame her, but there was nothing I could do about it because the

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(1913)

E--662.

conductor said every berth ~~was~~ and stateroom was taken and the only space available was the upper berth we had taken ^{and} ~~or~~ the smoking compartment. We got through the night somehow. The next morning conditions were better, my wife's toothache did not trouble her so greatly, the heat was less intense, and we were ^{interested} ~~amazed~~ ^{in the scenery.} ~~the magnificent scenery about the Great Salt Lake.~~ The train stopped several hours in Salt Lake City and we took a bus ride and saw some of the sights of the city, but not as much as we otherwise would because of a steady soft rain. The remainder of the trip was agreeable and interesting.

Washington and the Office
of Chief Clerk.

Upon reaching Washington I found that Dr. Galloway, Chief of the Bureau of Plant Industry, had been designated by Secretary Houston to serve as Assistant Secretary with a view to bringing about various reforms in the organization, methods, and policies of the Department: that he occupied an office adjoining that of Secretary Houston in the old red brick administrative building; and that he had brought with him Mr. Callander as his private secretary. The fact that this was a Democratic administration, the first in many years, and that Dr. Galloway was known to be a Republican, I took as evidence that the U.S. Department of Agriculture was to continue to be strictly nonpartisan. When I saw Dr. Galloway he explained that the present chief clerk was not entirely satisfactory and that a change was desired. He then took me in and introduced me to Secretary Houston, who repeated what Dr. Galloway had said regarding the chief clerk and that he understood from Dr. Galloway and other advisers in the Department that I was just the man they were looking for.

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I thanked him for the compliment and said I was ready to begin at once. No time was set for the change and it was not actually made until the last of June or early July, 1913. In the meantime I cleared up all arrears of work ⁱⁿ ~~at~~ the office of seed distribution and recommended that Mr. R. A. Oakley, Agrostologist, be appointed as my successor. This was approved and Mr. Oakley became head of the seed distribution and so continued until it was finally discontinued as one of the post-war economies of the government.

Seed Distribution Colleagues.

Before leaving the subject of the Congressional Seed Distribution I feel that I should mention some of my colleagues who had offices in the same building with me at 1306 B Street, S.W.

First in order was Dr. David Fairchild, Agricultural Explorer in charge of Foreign Seed and Plant Introduction and Distribution. This office was an offshoot of the office of Congressional Distribution, supported at first by an allotment of its appropriation and later by a special appropriation of its own, which was always supplemented by an allotment from the old appropriation under my charge. In the early days his office consisted of himself and two or three assistants, ~~but in many times it had~~ ~~grown~~ he spent much of his time traveling, and much of the physical clerical work was handled by my office. This practice continued down to my administration of the seed distribution office, so that the two offices were very closely connected, my office being responsible for the combined files and fiscal records, and his office being responsible for its own administration, the foreign field work and distribution of foreign material, and the correspondence connected therewith. This relationship of the two

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(1913)

E--664.

offices brought Dr. Fairchild ^{and me} together from time to time and our intercourse was always friendly and agreeable, although it seemed impossible to avoid a certain amount of friction between the clerical forces of the two offices. ~~Drx~~

Dr. Fairchild was a handsome man in the prime of life, college bred, a world traveler and plant explorer, filled with boundless enthusiasm and vision for the development of his project, which was the introduction into the United States from foreign countries of plants of possible economic value, in which he was quite successful. He had friends and acquaintances and contacts by correspondence in all parts of the world who cooperated in procuring seeds and plants. He married a daughter of Dr. Alexander Graham Bell, inventor of the telephone, who had prospered and lived in a beautiful home in Washington during the winter months and another beautiful home in Nova Scotia where he spent the summers. Dr. Fairchild lived much of the time with his father-in-law so that his conditions of life were quite different from those of his scientific colleagues and associates in the Department who were dependent ~~entirely~~ solely upon their salaries, who were absorbed in their work, who could not afford either leisure or luxuries, and who therefore had little or no contacts with the world of society. Because of this difference in background and environment it sometimes seemed to me that Dr. Fairchild, in spite of his generous impulses and instinctive courtesy and consideration for others, could not and did not quite visualize the situation of his colleagues or his clerical assistants, and that sometimes he quite overlooked certain necessary practical details involved in putting into effect some of his ideas. However, this

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was not due so much to any fault in Dr. Fairchild's character as to the form of our social organization and the unequal distribution of wealth, opportunity, and leisure. I regarded him as a highly cultured gentleman whom it was a privilege to know. Aside from official bulletins and reports he wrote a number of charming articles and more recently an equally charming book.

Associated with Mr. Fairchild was Mr. P. H. Dorsett, a small, mild mannered gentleman, botanist and trained horticulturist, enthusiastic, energetic, and intensely practical, who at one time was in charge of the plant introduction garden at Chico, California. Mr. Dorsett and I were great friends because of our common love of ornamental plants and our desire to accomplish things in the most direct and expeditious manner. He lost his beloved wife and had a most promising son. In later years he took his son with him on a plant exploring expedition to China. There the son developed proficiency in photography and father and son returned to the United States, the father bubbling over with enthusiasm and information concerning what he had seen in China and the wonderful horticultural skill of the Chinese, and the son with a fine collection of moving pictures and photographs. Soon after his return young Dorsett, the pride of his father, obtained employment with the National Geographic Society and married or was about to be married when, unfortunately, he soon sickened and died. This tragedy sent his father back to China, where he was at this writing, 1931.

Mr. Dorsett's team mate was Peter Bisset, who had served some years in the propagating greenhouses of the Department and as landscape gardener at Twin Oaks near Rock Creek Park. He was

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an excellent botanist, gardener, horticulturist, and landscape architect, a hard and conscientious worker, genial, with a lovely wife and a large family of children. These two, Messrs. Dorsett and Bisset, carried most of the burden of the practical details of the technical work and correspondence of the Office of Foreign Seed and Plant Introduction.

One of the public spirited projects in which Dr. Fairchild, Messrs. Dorsett and Bisset, and I were associated was the People's Gardens of Washington, of which Dr. Fairchild was president and I was secretary. The purpose of the organization was to encourage and promote the beautification of Washington's home yards and streets. During the winter months the houses of Washington were occupied, but with the coming of hot weather there was an exodus of wealthy residents who remained away until the late autumn or winter following. During ^{this} ~~their~~ absence their houses were shut up and their yards and grounds neglected. The organization operated several ~~plots~~ ~~xxxxxx~~ vacant lots as children's gardens, and in addition employed a trained landscape gardener and several laborers to work with him. It was thought that the wealthy people of Washington would pay a reasonable monthly fee to have their yards and grounds properly cared for during the summer months while they were away. The organization ran for two years and involved considerable extra work on the part of its officers, especially the secretary. They were disappointed in not getting the support of wealthy people that they had expected, receipts were insufficient to pay the salary of the landscape gardener, and the organization died for want of public appreciation and support. Its assets in the form of equipment were turned over to Miss Susan B. Sipe, who was especially interested in the chil-

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(1913)

E--667.

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One of the first and most successful of the foreign plant explorers of Dr. Fairchild's office was Frank N. Meyer, a trained botanist of German origin or descent, sent over to Russia, Siberia, and China, about 1910, where for several years he explored remote regions never before seen by European eyes. It was a hard and adventurous life and he succeeded in collecting and forwarding to the United States many tons of new and promising plant material, together with detailed descriptions and photographs of what he saw. Later he returned and spent some time at the various Plant Introduction Gardens to observe the behavior of some of the plants he had sent over, and at the office in Washington to write up his notes. It was there I became acquainted with him and listened ~~to~~ with the greatest interest to his descriptions of the Chinese hinterland and people. From him I learned that China was not a homogeneous single nation with a centralized government such as the United States, but was a loosely federated group of separate provinces or states, each with its own language and customs, often at war with each other, with very little intercourse with adjoining provinces or with the imperial government at Peking beyond paying annual tribute, and that almost every city had its own monetary system whereby money changers profited greatly. I still treasure certain souvenirs which Mr. Meyer gave me. He returned to China while the great war was in progress, greatly saddened because of it. Shortly after he reached China his letters and reports ceased and in course of time a message was received to the effect that he ~~was~~ met his death in one of the Chinese rivers. I do not know whether a def-

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inite account of ~~the~~ the circumstances surrounding his death was ever received, but I do know that news of his untimely end saddened the hearts of all who knew him.

One of the younger members of Dr.Fairchild's ~~st~~ technical staff was Mr.R.A.Young, who was specializing on the dasheen, a tropical edible tuber with enormous leaves, commonly known as elephant ears. This plant is widely used for food in tropical zones and serves the same purpose in the menu as white potatoes do in more northern climes. The object of Mr.Young's project was to develop a new industry in the grbwing of a valuable food plant in the waste places of semitropical lowlands of Florida and other Gulf Coast States. It was carried on persistently and intelligently for many years. However, there were several difficulties. One was that it is a hand labor plant and is not economically profitable. The second and greatest obstacle, apparently insurmountable, is the fact that after all is said and done the common white potato is superior in quality and appearance, can be grown more economically in any quantity desired and placed on the markets at lower prices, can be cooked in many different ways and with less trouble, and lastly is greatly preferred by the vast majority of northern peoples. The dasheen was described in the circulars sent out by the office backing it as having a sweet, nutty flavor. It has. But it is not easy to prepare and it has a dark, bluish gray color that is unattractive, something like a discolored frozen turnip. For several years I was the recipient of a sample supply of dasheens with printed instructions and recipes and my wife was greatly interested in preparing them for the table. In spite of our interest in them because of my

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 for the table. In spite of our interest in them because of my

(1913)

E--669.

friendship for Dr. Fairchild and Mr. Young, we had to admit to ourselves that we did not like them as well as either white or sweet potatoes. Other friends in the Department acknowledged that they had a similar experience. *ff* To hear Dr. Fairchild describe many fruits and vegetables, such as mangoes, mangosteens, papayas, chayotes, and the like, one got the impression that they must be superlatively delicious. So they are, sometimes, especially to those who are accustomed to them, who get them in prime condition, and who are not familiar with the fruits and vegetables of northern climes. Years later I had opportunities for tasting all sorts of tropical fruits and vegetables, but I confess it was always with a feeling of great disappointment. To me the strawberries, dewberries, raspberries, currants, gooseberries, cranberries, blueberries, peaches, apricots, plums, apples, and pears, are superior to anything to be found in the tropics; our white flour is superior to cassava or manioc: our white potatoes are superior to the dasheen; our sweet potatoes are superior to yams; our tomatoes are superior to those grown in any other country: our asparagus, head lettuce, blanched celery, cantaloupes and watermelons are unsurpassed in any country. I suspect that it is this abundance of fruits and vegetables of the finest quality, kept in prime condition by refrigeration, and available at low prices throughout the year in almost every city, town, and hamlet of the United States, that stands as an insurmountable obstacle to the general adoption of strange and exotic fruits and vegetables from foreign countries.

In the same building with the seed offices was the Office of Forage Crop Investigations, of which Prof. C.V. Piper was chief,

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(1913)

E--670.

J.M.

Mr. R.A.Oakley, assistant chief, and Messrs. [^]Westgate, Vinall, Morse, and some years later Dr.A.J.Pieters, were members of the technical staff. Prof.Piper was a kindly man, big physically and mentally, and a good agronomist who specialized on the grasses and other forage crop plants. He had many warm friends in the Department and was highly regarded and respected for his technical knowledge, his broad view of American agriculture, and his sanity.

Mr. R.A.Oakley was his right hand man, a man of clear, brilliant intellect, a good botanist and agrostologist, with a mind that worked along sound economic lines, eminently practical and resourceful in his own special field and in helping to shape the general policies of the Bureau of Plant Industry. He was one of the gentlest and ^{most} [^]lovable of men, with a kindly, sympathetic disposition that remained sweet through years of nerveracking rheumatism and ill health. In all the years I knew him I never heard him utter a word of complaint or even mention his malady, although I often saw him with limbs contorted and his brow furrowed with pain. Him I salute as one of the bravest and gentlest spirits I have ever met.

Mr. Westgate was a handsome young man who was specializing on the clovers. He spent much of his time in the field and I did not know him so well as the others. Years later he was director of the Hawaiian agricultural experiment station at Honolulu where I last saw him in my travels.

Mr. Vinall's specialty was the nonsacharine sorghums which were beginning to be grown in the west so extensively. In the earlier years much of his time was spent in Kansas, Oklahoma, the Texas panhandle country, and adjoining States to the west. I really got acquainted with him at the seed grain loan office at Wichita,

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Mr. Morse was a quiet unassuming young man who was working on cowpeas and soybeans and spent most of his time at the Arlington Experimental Farm where thousands of ~~x~~ varieties and hybrids were under observation.

Dr. A.J. Pieters joined the forage crop office long after my separation from the Bureau of Plant Industry. When I entered the Bureau he was chief of the office of seed distribution and was recognized as one of the important men in the bureau, partly because of his vision and administrative ability, his technical ^{Knowledge} ~~ability~~, and other qualities, and partly because he was in charge of the largest appropriation in the bureau. He left the service for a few years to engage in the seed growing business, became disgusted with it because of the unscrupulous competitive methods that prevailed in the seed trade at that time, ^{he} was connected with one of the State agricultural colleges for ~~a time~~ ^{awhile}, and later returned to the Bureau of Plant Industry where he specialized on leguminous plants. Dr. Pieters is a Hollander, tall, slender, usually wearing a mustache and Vandyke beard, and of dignified and distinguished appearance. In some respects he is typical of the scientific research worker, the embodiment of concentrated absorption in his specialty; but with all he had a keen sense of kindly humor as shown by his twinkling eyes and peculiar smile when anything pleases his fancy.

Other Friends in the Bureau of Plant Industry.

There were many other warm friends in the Bureau of Plant Industry too numerous to mention or describe but who achieved

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There were many other warm friends in the Bureau of Plant Industry too numerous to mention or describe but who achieved

distinction in special lines of scientific research. In addition to Dr. B. T. Galloway, chief and acknowledged leader, there was Dr. W. A. Taylor, G. Harold Powell, W. J. Spillman, L. C. Corbett, M. W. Waite, F. V. Coville, O. F. Cook, W. T. Swingle, C. S. Scofield, T. H. Kearney, H. L. Shantz, W. A. Orton, L. H. Dewey, ~~xxxGxxFxx~~ Rodney H. True, T. N. Carver, H. P. Gould, E. C. Chilcott, Bradford Knapp, M. A. Carleton, N. A. Cobb, J. S. Cates, E. V. Wilcox, Edgar Brown, Haven Metcalf, C. J. Brand, ~~Drx~~ Erwin F. Smith, Lyman J. Briggs physicist, Karl F. Kellerman, and a host of others ~~whosexnamex~~ whom I knew well and with whose projects I was familiar with but whose names do not happen to rise up before me as I write. They were a fine body of men, devoted to scientific research, and I felt indebted to each one not only for his friendship and good will but as an instructor in his specialty--and some of them were pioneers and many of them were known internationally for the work they had done. I also knew most of their assistants, the obscure but faithful and intelligent workers who carried the burden of routine work and made their success possible.

Office of Chief Clerk.

There was some delay in effecting my transfer to the Office of Chief Clerk, probably out of consideration for the incumbent, Dr. C. C. Clark and the desire to provide some opening to which he could be transferred. Dr. Clark was a fine ~~man~~ man, had been assistant chief of the Bureau of Statistics, and was detailed to organize the statistical work of the International Institute of Agriculture at Rome, where he remained several years, was successful, and is still remembered by the subordinate staff. Upon his return to Washington he was made Chief Clerk of the Department

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of Agriculture. So far as I could see he made an excellent chief clerk, but for reasons that I never clearly understood he was not looked upon with favor by some of the chiefs of bureaux, especially by Dr. Galloway. Fortunately a place was found for him in the Weather Bureau where he became assistant chief to Dr. Marvin, and I was appointed as chief clerk. While I had never thought of the position in connection with myself until Dr. Galloway and the Secretary asked me to take it, I could not help but feel that I was unwittingly displacing Dr. Clark, who seemed loath to leave. Before the change took place I called on Dr. Clark and tried to make clear to him my attitude in the matter and to express the hope that I might have his friendly cooperation. He courteously brushed aside my awkward attempts at a friendly understanding and was extremely dignified and politely cool then and thereafter. I could not blame him especially, but I felt entirely blameless in the matter. It was just one of those strained relations that arise out of situations that develop outside of one's knowledge or control, but I always regretted it.

With my appointment as chief clerk came a very hectic and trying experience. The chief clerk was in general charge of and responsible for the care of the buildings owned and rented by the department, the force of messengers, doorkeepers, watchmen, elevator men, ^a~~char~~ women, and mechanics; the mechanical shops and all shop work, the power house, was custodian of supplies and equipment, chairman of the general supply committee that awarded contracts for the purchase of all supplies for the department, and chairman of the building committee responsible for provid-

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(1913)

E--674.

ing office space for a rapidly growing department. If a window cord broke, an elevator got out of order, a waste paper basket caught fire, an awning was blown off, a telephone or call buzzer stopped working, a roof blew off in a gale or sprung a leak, or a desk drawer jammed, there was a hurry up call on the telephone of the chief clerk demanding immediate attention.

The force of messengers, door keepers, watchmen, charwomen, and attendants was barely sufficient to man the buildings, and for the watchmen a day and night shift had to be maintained, so that there was constant friction in trying to arrange for leave of absence for each of them without crippling the service. The force of mechanics in the shops were sore because they were not getting the same wages under government that union labor got in private employment, notwithstanding the fact that their hours of labor were shorter and their work lighter and continuous. Also there was much jealousy among them as to the amount of work each did and as to wages and promotions. Because of the change in administration they lost a lot of time coming to me to complain of their situation or about their fellow workers, making charges and counter charges of misbehavior, inefficiency, and theft against each other. I listened to them patiently and sympathetically for several weeks, checking the statements of one against the other, and visited the shops and each bench, with a sincere desire to understand their grievances and to improve their situation individually and collectively; but the whining complaints continued with fruitless loss of time until my patience was exhausted. Finally first one and then another began to hint broadly as to what might happen unless their fancied wrongs were righted and promotion *came*

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(1913)

E--675.

without further delay, that they would walk out on me, that they would appeal to the labor unions, that they would get publicity, and that I might lose my job. Then the worm turned. I felt that I knew all that any one person could know about the shops, that the men had no real grievance, and that they had been badly spoiled by lack of supervision and checking up, so I determined to stop it. The first mechanic who ~~asked~~ left his work to interview me thereafter and who began to complain of his unsatisfactory situation, of injustice, and of his fellow workman, I called a halt and said I would always be glad to hear of any case of wrongdoing in the shops, but the man who made the charge must be prepared to go into court and prove his charges, and unless he was prepared to do that I would not listen to a word and he would be docked for the time he was away from the shop; and if he did not like his job all he had to do was to resign, because there were thousands of good mechanics just waiting for it. He was very much crestfallen and never showed up at the office again. The second man that called and said he must have a promotion immediately or he would walk out, I stopped short with the statement that he could not walk out too soon to suit me and the Department and if he ever came to my office again with such a statement I would see that he was fired the same day. Evidently word passed about the shops that I was a holy terror, because thereafter I was not bothered by them. I continued to call daily at the shops to see what the men were doing and gradually established friendly relations with them, but I began to appreciate the wide difference between laborers and mechanics on the one hand and clerks and other educated white collar¹ men on the other, their differ-

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ent ~~xxx~~ psychology and point of view, and the different methods that must be employed in dealing with them to appeal to their experience and reason.

The Statistical Committee.

Along with the multitudinous and vexatious duties of chief clerk ^{were} ~~was~~ numerous calls to sit ^{at} ~~on~~ committee meetings and the loss of time involved. Shortly after I became chief clerk, ~~xxx~~ upon recommendation of Dr. Galloway, ~~the xxxxxxxxxx~~ Secretary Houston appointed a committee to investigate and report upon the crop reporting system and organization and methods of the Bureau of Statistics, and I was designated as one of its members. It was alleged that the chief, Mr. Victor H. Olmsted, had absented himself for months at a time, including a year as director of the ^U ~~C~~uban census and another year for the same purpose in the Philippines, a visit as delegate to the International Institute ~~at~~ of Agriculture at Rome, and a proposed visit to Russia to advise as to their crop reporting service, which was cancelled and he was recalled; and that during his absences the organization, personnel, routine, ~~and the~~ quality and dependability of the crop reports of the Department had deteriorated. It was said that the personnel had divided up into cliques which were at loggerheads, that feuds had developed, and that a series of anonymous letters were flying about, some to the Secretary of Agriculture and others to Members of Congress, making charges and countercharges, including the charge that immoral relations existed between some of the clerks, and that partiality had been shown in the matter of promotions. Most of these charges had been investigated by the Office of the Solicitor where all the employes had been given a chance to air their grievances real and imaginary. The net re-

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(1913)

E--677.

sult was that several employees were slated for dismissal but were allowed to remain in service temporarily to give them an opportunity to effect a transfer to some other department. *P* There remained, however, the question of organization and technique to insure accurate and dependable crop reports. For this purpose a committee was appointed with Prof. C. Dwight Whitney, for many years chief of the Bureau of Soils, as chairman; Dr. John Lee Coulter, an economist who later became president of the North Dakota Agricultural College and still later a member of the U.S. Tariff Commission; a Mr. Thompson, an economist in the Office of Markets; and I, who assumed the duties of secretary of the committee. The committee held frequent meetings, interrogated the technical staff of the Bureau of Statistics, Mr. Nat C. Murray, assistant chief; Mr. George K. Holmes, statistician and economist; Charles M. Daugherty, statistician and editorial writer who had represented the bureau for several years in London; S.A. Jones and Frank Andrews, both statisticians and principal assistants. As a matter of fact the committee had such fine and sincere cooperation from Messrs. Murray, Jones, and Holmes, in explaining organization, methods, and routine that it felt that it would be useless to seek further. There was no question of delinquency but simply a checking up of ways and means of estimating crop production and methods of handling and interpreting data with a view to improving the system. Dr. Whitney had a remarkably analytical mind and in the past had been a severe critic of the Bureau of Statistics and the crop reporting service, which was probably the reason why he was selected to head the committee. Messrs. Coulter and Thompson were both familiar with statistics and statistical methods, realized the importance of dependable

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crop reports and annual statistics, and came to the committee with open minds. To me the whole system was new territory. I was interested not only in the service the bureau was trying to render, the utility and value of the data it published, but more especially in ~~xxxxxxxxxxxxxxxxxxxx~~ the organization and ways and means for obtaining, summarising, and publishing the data. I confess I was sceptical of the system of estimating crop production as a percentage of a theoretical normal that could not be defined satisfactorily, based upon reports from voluntary correspondents throughout the country who served without compensation and whom no member of the bureau force had ever met. However, Messrs. Murray, Jones, and Holmes inspired the committee with confidence and I was willing to defer to their judgment, as to the efficiency of the system, especially as I could not suggest a better one.

The committee decided that the title ~~of the bureau~~, "Bureau of Statistics," was somewhat misleading because the data published by it were mostly estimates, and therefore recommended that the title be changed to "Bureau of Crop Estimates," which would indicate more clearly the real nature of its work. The former chief, Mr. Victor Omsted, pending investigation had been temporarily suspended and it was taken for granted that a new chief of bureau would be selected. The committee outlined some of the qualifications it thought the new chief should have and some of the things he would be expected to accomplish. The appropriation of the bureau included an item of \$36,000 for State statisticians, which was clearly inadequate to obtain services of any value. The positions were not under civil service regulations and fixed salaries were not specified. In most of the

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States a minor official or the political protégé of some Senator or Representative was given the appointment on a part time basis with a salary ranging from \$500 to \$900 a year. In return they made up a perfunctory crop report once a month and usually made a junketing trip over the State once a year. The committee believed that these reports were valueless and that part of the appropriation was wasted. It recommended that this item be omitted from the next appropriation bill and that in lieu thereof a sufficient increase be obtained to provide for the employment of a trained field agent in each State with a sufficient allowance to enable him to travel over the state at frequent intervals, with the idea that he would establish a permanent office in the state, organize a corps of picked crop reporters, and by travel and interview he would become so familiar with every part of his state that his reports would be extremely valuable and serve as a check on the reports that came directly to the bureau that were suspected of being subject to bias in time of crop or price changes. As to the publication of results the committee was influenced by the rather decided opinions of Dr. Galloway, who greatly disliked the solid pages of figures presented in the Monthly Crop Reporter, and he advocated the economy in space and expense that would be effected by fewer tables ^{with} ~~and~~ interpretative text summaries. The committee tried to meet this view by recommending the discontinuance of the Crop Reporter and substituting a smaller periodical to be entitled "The Agricultural Outlook." Mr. Murray pleaded strongly but vainly for the retention of the Crop Reporter and the standard tables, which he said were widely used and fully understood by those who used them, and he urged the importance of maintaining comparability through a long series of years,

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which would be destroyed if the data were presented in a different form. ~~Thereafter~~ Under instructions from the committee I prepared its report, which was signed and sent over to the Secretary in August or September, and promptly approved.

I resumed my daily round of meeting emergencies and grappling with petty and vexatious details in the office of the chief clerk. Aside from the salary my principal compensation came in the form of contacts and acquaintanceship with the administrative officials of the different bureaux of the department and the more intimate knowledge I was gaining from day to day of its organization, personnel, and work. However, I was not happy in this office, because of the multiplicity of petty and vexatious worries, and because it seemed to lead nowhere.

Chief, Bureau of Statistics.

Then one day Secretary Houston sent for me, said he was considering appointing me as chief of the Bureau of Statistics, and asked what I thought about it. I expressed my surprise and appreciation, but said in all sincerity, "But, Mr. Secretary, I think the head of the Bureau of Statistics should be a statistician. I am not a statistician and have had no experience in dealing with statistics. I am confident that I could handle the personnel situation and the machinery and routine for collecting and summarising the data, but I do not profess to know anything about statistics or statistical methods." He smiled and said that Dr. Galloway had insisted that I was the best statistician in the department and in support of his statement had submitted some of my reports in which I had set forth^h numerical data that were duly classified, arranged, analyzed and

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summarized. He said that was all that any statistician could do and perhaps none could have done it better. "But, Mr. Secretary," I protested, "that was only plain arithmetic and a little common sense." "That's just what we need in this department more than anything else," he replied with a smile, "just plain arithmetic and a little common sense." Then he said the appointment would be issued within a few days and that in the meantime it might be well to talk with Dr. Carver, who was temporarily in charge of the Office of Farm Management.

I returned to my desk with my head in a whirl at the unexpected turn of events. That same day I had an interview with Dr. Carver, a big, kindly gentleman, with a most unusual endowment of what Secretary Houston seemed to prize so highly, "common sense." He was very gracious and helpful in suggesting authorities and titles of books on statistical methods, which I immediately purchased or borrowed from the department's library and proceeded to devour as if my life depended on it.

In due time the appointment reached me and I entered upon duty as chief of the Bureau of Statistics. It ^{was} ~~wa~~s probably the last week in September or the first week in October, 1913. Both the appointment as chief clerk and as chief of bureau were wholly unforeseen, unexpected, and without solicitation or suggestion on my part. In fact I had not thought of the office of chief clerk and was hardly aware of the existence of the Bureau of Statistics before my last inspection trip to Bellingham. Undoubtedly the appointments came to me as the result of Dr. Galloway's confidence in me. These promotions involved an increase in salary from \$2,500 as chief of the office of seed distribution, to \$3,500 as chief clerk, and to \$4,000 as chief statistician.

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I was greatly encouraged and entered on duty in the new field with enthusiasm and a determination to succeed if it could be done by study and hard work. The only [^]flaw in the ointment was the feeling that I was displacing some one else. First, there was Mr. Murray, the assistant chief, who had been the mainstay of the bureau for several years, whom every one liked, and who unquestionably was the best statistician in the department and one of the best crop estimators living. I said something of this to Mr. Murray at the time my appointment was announced. He said very frankly and generously that I need have no feeling in the matter because he had none, and that he had no wish to be burdened with vexatious administrative details, preferring to be left free to devote himself to purely statistical work. This relieved my mind greatly. This statement was characteristic of him. No man ever had a more loyal assistant than I had in Mr. Murray, nor a more lovable associate. His wife was equally charming and gracious. Both were Quakers, college bred, refined, cultured, and above all gentle, considerate, and amiable.

My sympathies went out also to Mr. Omsted, the chief whom I succeeded. He was a fine man who had achieved an national and an international reputation as a crop statistician, he had served with distinction and honor in two foreign countries, and ~~upon~~ ^{ed} ~~his~~ return to the United States only to be virtually disgraced and condemned because of a situation that had developed in the bureau for which it was a question whether he was ~~partly~~ in any way responsible, and which would probably have attracted no attention but for the change in administration. After investigation and long suspense during which he must have suffered great-

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(1913)

E--683.

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Needless to say the the remainder of 1913 and 1914 were busy months for me. In addition to the routine work of the office I was studying statistical authorities, the crop reporting methods of the bureau, and especially getting acquainted with the personnel of the bureau. The appropriation bill for the bureau had been prepared and provision made for its change of title. For the first time I appeared at the hearings of the Agricultural Committee of the House of Representatives to explain and defend the portion of the bill that related to my bureau. This was something of an ordeal in expectation, but when I stood up before the committee I realized that it was nothing more than a meeting of responsible men very similar to other committee meetings in which I had taken part.

Another ordeal was meeting in a body for the first time all the field agents of the bureau who were called into Washington in January or February, 1914. I had discussed this meeting with Dr. Galloway and he had consented to represent the Secretary in opening the meeting. On the appointed day and hour there were about twenty field agents, a number of specialists, and a group

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E--684.

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(1913)

E--685.

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State Statisticians.

Because of the change in administration tremendous pressure was brought to bear upon Congress, through Congress, and by Congress to have Republican officials and employes replaced by good Democrats in 1913 and 1914. Perhaps the greatest service that Secretary Houston rendered was to stand like a solid bulwark against interference or the use of outside influence by a clamorous Democratic public in the appointment, promotion, or status of the officials and employes of the Department of Agriculture. So firmly convinced was he that the merit system in Federal offices is the only just, fair, and proper system that he resented any attempts from outside to influence his action, even to the extent of charging attempted use of outside influence against the employe or candidate in whose behalf it was urged.

An amusing incident occurred early in 1914. From the annual appropriation passed for the fiscal year beginning July 1, 1914, was omitted the item for state statistical agents, although this was not generally known. It meant that after July 1st there would be no authority of law for the employment and payment of state statistical agents. It was therefore our intention not to make any new appointments to vacancies that might occur. During the winter

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(1914)

E--686.

er months applications for appointment to this position were received from almost every State. Usually the applicant was satisfied when told politely that the position was already occupied by a man who had given no cause for discharge. But several vacancies ~~occurred~~ occurred for which a swarm of applicants appeared. Inasmuch as we did not want it generally known that these positions were abolished until the appropriation act ^{was passed} ~~went into~~ ^{by Congress} effect on July 1, we did not like to tell them ~~until after that~~ date that no ^{new} appointments ^{would} ~~were to~~ be made. So for awhile we procrastinated and gave evasive answers; we did not wish to stir up any agitation in the States or in Congress for the renewal of the ^{allotment for State statistical agents,} ~~appropriation~~, which we regarded as a sheer waste of public money, and it seemed utterly futile to appoint candidates who would barely have time to receive their appointment papers and detailed instructions when ~~they~~ their positions would cease to exist. In the ~~early~~ spring the State Statistician ^{for} ~~of~~ West Virginia died. Immediately there were several applications for his position, which paid \$500 a year. All the ~~applicants~~ candidates subsided except one whose application was supported by a bundle of endorsements and recommendations from prominent and influential Democrats, including his local Democratic Committee. This candidate got up in arms when he was notified, as were the others, that it was decided not to fill the vacancy in ^{West} ~~Virginia~~ before the first of ~~July~~ July. We tried to pacify this belligerent candidate with the statement that for reasons of economy the position would not be filled. This did not ^{satisfy} ~~pacify~~ him. Senators and Representatives from West Virginia began to pester the Secretary of Agriculture about it. Meanwhile time was passing. Finally the Secretary sent for me and asked what we might do to quiet

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(1914)

E--687.

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Shortly before the close of the fiscal year I notified the State statisticians that the appropriations for their offices had been omitted by Congress and that their services and salaries would end with June 30, and thanking them for their splendid cooperation. Only one came back with a protest besides the West Virginia appointee, and that was a illiterate school teacher from Pennsylvania who insisted that the government owed him a job and if he was not taken care of he would sue in the United States courts for it.

Field Agents.

The scheme for improving the field service of the bureau that was drawn up by the statistical committee and approved by the Secretary the previous summer contemplated not only the abolition of part time State statisticians, who might or might not be competent, but the appointment of trained men as field agents, and under the law these had to be obtained upon competitive examinations through the Civil Service Commission. Several months in advance, therefore, I prepared a set of civil service examina-

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tion questions which I had Messrs. Murray, Jones, Andrews, and Holmes revise so that they would be technically correct. It was a rather severe examination, the kind that is known in the service as an "eliminator," and the entrance salary held out as bait was only \$1,600 a year, it being understood with the Secretary's Office that if the men appointed from this register made good and demonstrated special fitness their promotion would be rapid up to \$2,400 a year. The difficulty in securing good men under such an examination was due to the fact that crop estimating and agricultural statistics were not taught in any school or college, nor was it then a recognized profession, so that there was no place outside the Department of Agriculture where crop estimating could be learned. In due course of time the examination ^{was} held and a small register of eligibles established, ~~many~~ of the candidates having failed, more than three-fourths of the total entries. From this register a number of appointments were made, although several of the candidates ~~refused~~ declined appointment because they had already obtained employment at higher salaries.

Mr. Banks.

Among the small force of district agents employed by the bureau under the former regime were two or three who were unsatisfactory and yet could not be discharged because of overt acts. At our general meeting early in the year I had heart to heart talks with these delinquents and told them that their service was reported to me as unsatisfactory, but we were turning over a new leaf and if they would give loyal, efficient, and satisfactory service in future the past would be overlooked; otherwise I would not hesitate to recommend their discharge to make

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(1914)

E--689.

way for better men. This course succeeded with all but one, the field agent for Georgia and Florida, a Mr. Banks (that is not his true name, but it will answer.) Banks had repeatedly ignored letters and instructions from the Washington office and frequently absented himself from his post of duty. I found him to be a tall, handsome, suave, southern gentleman who had graduated from college with a degree in textile engineering. He had a certain contempt for "no'theners" because of their ignorance of cotton and the South. When he learned that I was from Texas he became quite frank in his conversation and confided to me that he was paying court to the daughter of Senator Tillman of South Carolina, and that because the Senator was interested in botany he had made it a point to cram on the subject so that he could discuss botanical questions with the Senator. We separated in a most friendly spirit with a promise on his part that he would reform and a statement on my part that if he did not I would recommend his summary dismissal from the service. Everything went well for a month or two until one day I was told that Mr. Banks was seen on the streets of Washington, when he was supposed to be down in Florida. I ascertained the hotel at which he was stopping and sent him a note that I wished to see him at the office. He appeared the next day, dressed in the height of fashion, a flower in his button hole, and quite debonair. I greeted him cordially and inquired if he had not neglected to arrange with his office for leave of absence from his post. He readily admitted it as if it were a matter of no consequence between gentlemen. I reminded him that his official reports for the States of Georgia and Florida were due within a day or two. He admitted this also but said he would try to make up a report. I asked if he had

but said he would try to make up a report. I asked if he had and Florida were due within a day or two. He admitted this also minded him that his official reports for the States of Georgia if it were a matter of no consequence between gentlemen. I re- for leave of absence from his post. He readily admitted it as and inquired if he had not neglected to arrange with his office in his button hole, and quite debonair. I greeted him cordially peared the next day, dressed in the height of fashion, a flower sent him a note that I wished to see him at the office. He as- Florida. I ascertained the hotel at which he was stopping and the streets of Washington, when he was supposed to be down in month or two until one day I was told that Mr. Banks was seen on summary dismissal from the service. Everything went well for a statement on my part that if he did not I would recommend him ly spirit with a promise on his part that he would reform and a tical questions with the Senator. We separated in a most friend- it a point to cram on the subject so that he could discuss botan- and that because the Senator was interested in botany he had made paying court to the daughter of Senator Tillman of South Carolina, quite frank in his conversation and confided to me that he was and the South. When he learned that I was from Texas he became contempt for "no'theners" because of their ignorance of cotton college with a degree in textile engineering. He had a certain tall, handsome, suave, southern gentleman who had graduated from ly absented himself from his post of duty. I found him to be a letters and instructions from the Washington office and frequent- true name, but it will answer.) Banks had repeatedly ignored field agent for Georgia and Florida, a Mr. Banks (that is not his way for better men. This course succeeded with all but one, the

(1914)

E--690.

read his instructions on the subject and he said he had, but it was a long while ago and they were not especially important anyhow. Then I asked if he remembered our conversation in January and the promise he had made to me at that time. He replied "Certainly, Mr. Estabrook, but you surely did not mean what you said." I answered, "You were never more mistaken in your life; I meant exactly what I said and I have no alternative ~~x~~ but to recommend your immediate discharge from service for neglect of duty and conduct unbecoming a gentlemen, because you gave me your word of honor that you would obey instructions from this office. The recommendation for your discharge will go to the Secretary today." He smiled in a confident sort of way, bid me good day, and sauntered out. I immediately dictated a statement of the facts as I knew them and recommended his discharge to take effect at the end of the current month. The Secretary approved the recommendation immediately and the appointment clerk was instructed to rush the papers through.

Senator Tillman.

The next morning Dr. Galloway sent for me. He said that Senator Tillman had called him up over the telephone ~~a~~ late at night about the Banks case and he had assured the Senator that I would be at his office at 10 a.m. to discuss the case with him. His eyes were twinkling as he said this. "All right, Doctor," I replied, "If you say so I will go, but I do not exactly relish meeting Pitchfork Tillman, but by the Eternal either Banks shall leave the service ~~I~~ or I will." Again he smiled. Senator Tillman had a reputation for a violent temper and a vitriolic tongue and I confess I was extremely ill at ease as

read his instructions on the subject and he said he had, but it was a long while ago and they were not especially important any-how. Then I asked if he remembered our conversation in January and the promise he had made to me at that time. He replied "Certainly, Mr. Eastbrook, but you surely did not mean what you said." I answered, "You were never more mistaken in your life; I meant exactly what I said and I have no alternative but to recommend your immediate discharge from service for neglect of duty and conduct unbecoming a gentleman, because you gave me your word of honor that you would obey instructions from this office. The recommendation for your discharge will go to the Secretary today." He smiled in a confident sort of way, bid me good day, and answered out. I immediately dictated a statement of the facts as I knew them and recommended his discharge to take effect at the end of the current month. The Secretary approved the recommendation immediately and the appointment clerk was instructed to rush the papers through.

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I approached his office, entered, and found myself in the presence of the Senatorial ogre. Banks was there before me and sitting at his side. The ogre turned out to be a rather large, elderly man with a square jaw and kindly eyes. Mr. Banks greeted me pleasantly and introduced me to the Senator. The Senator looked at me for a moment and I returned his look with interest. Then he said, "What's all this I heuk about Mr. Banks bein in trouble in your bureau?" "Why," I answered, "No trouble at'll, Senator, only Mr. Banks has absented himself from the Great State of Goja and Flo'da when the Bureau is about to issue a cotton repoht, and you know as well as I do that a cotton repoht is not wuth anythin with Goja left out." "Oh, ho," he grunted, "Whar you from and whut do you know about cotton?" "I'm from Texas, Suh, an grew up in a cotton patch an I could hoe and pick ^{more} cotton than any other boy or man in the State, an I just can't think of a cotton repoht by the United States guvment without Gója, and here Mr. Banks, instead uf bein in Gója where he belongs to make up a Gója cotton report ^h is here without permission of the United States Department of Agriculture an, as I unerstand, is a cohtin your daughter." I don't usually talk that way, but it worked. The Senator looked interested and friendly and said, "Well, well, and so you are from Texas. Thank God you are from the South. No God damn Yankee ever knew anything about cotton." Then I proceeded to explain to the Senator how vitally important were our crop reports, especially for cotton, how important it was that every field man should be on his job, and suggested that Mr. Banks's talents were obviously misplaced and that he might serve his country much better, say, in a diplomatic post, or in the Treasury Department, or in any other post

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that did not require hard work, exact data, and reports at a ~~fixed~~ designated time where an error might mean the loss of millions of dollars to southern farmers. His eyes snapped and he grinned back at me in friendly fashion and said that he would see ~~if~~ what could be done. *¶* So I had bearded the lion in his den and came away much relieved in mind. I went straight to Dr. Galloway. He laughed outright when I told him that the Senator had said "No God damn Yankee never knew anything about cotton," and reminded the Doctor that I was born in Illinois and my father served in the Union navy. Just then the telephone rang and I heard Dr Galloway say "Yes, yes, Senator, that's why I sent him up to you; he's from Texas and knows more about cotton than any other man in the department and he's trying to give us a real honest-to-God crop reporting service, especially for cotton, and that's why he won't stand for any foolishness on the part of field agents, especially in the South. Yes, yes, that's all right, the discharge of Banks will have to stand." Then turning to me with a smile he said that apparently I was solid with the Senator, that evidently I had made a favorable impression upon him, and that he would try to find a place for Banks in some other branch of the service as I had suggested. The dismissal went through and shortly thereafter it was announced that Banks had been taken on as a field agent for the Civil Service Commission.

The Field Force.

Gradually the field force was built up until we had a trained field agent in ^{each of} forty-one States, some of the agents looking after two or more States; as, for example, one looked after the New England States as a group, another Pennsylvania and New

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(1914)

E--693.

Jersey, ^a Another Maryland and Delaware, and another Utah and Nevada; and this arrangement lasted for several years. They were a fine, alert, ambitious and enthusiastic body of men who grew steadily in experience, ability, efficiency, and judgment as crop estimators and statisticians. We were fairly successful in getting annual increases in the appropriation which permitted some expansion and a few promotions. We were fortunate in our monthly and annual estimates, especially with cotton, the estimates corresponding very closely with the final ginning returns.

The Clerical Force.

The personnel of the Bureau required considerable attention and much of my time. The older members of the clerical force had been recruited many years before the civil service law was passed. Most of them had sought and obtained appointment through personal acquaintance or friendship with Senators or Members of Congress. When appointed they were without special qualifications and were simply average men and women in need of employment. They were appointed to placate or win the support of their Congressional backing. There were only three divisions in the Department of Agriculture where unskilled people could be employed, the Congressional Seed Distribution, the Division of Publications, and the Bureau of Statistics, in which last were many envelopes to be addressed by hand, many questionnaires to be folded and inserted in the envelopes, and later the returns had to be opened, sorted, and tabulated. For this reason the Bureau of Statistics was overloaded with employes, many of whom were superannuated, inefficient, and retained in service only out of pity and subject to removal only by death. Considerable feeling

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(1914)

E--694.

existed between these older clerks, who mostly drew the higher salaries, and the younger generation of clerks who were appointed on competitive civil service examinations, who were ambitious and could turn out more and better work than their elders, but who were necessarily held back in salary because the older clerks occupied the higher salaried positions and it was contrary to the policy in the government service to demote any one except for misconduct of some kind. The younger clerks were discouraged and dissatisfied because of the slowness of promotions and the manifest injustice involved in doing more and better work for less pay than others sitting at their side. The older clerks were furious and up in arms when vacancies occurred and younger clerks with a shorter term of service were promoted over their heads. It was quite natural, of course, that all the older clerks should think that promotions and advancement should be based on longevity of service, regardless of character, kind, quality, or amount of service; and that the younger clerks should feel that the salaries paid should be somewhat proportional to the quantity and quality of work done. It was part of my job to keep the peace with as near an approach to justice and fairness as possible.

One old gentleman had been in service almost from the beginning. He had a record of distinguished military service in a New York regiment in the Civil War and came out with the rank of major. He had been a ^{man} ~~an~~ of considerable ability, had written many articles that were published, and had been on friendly terms with many prominent men in his time. But for many years he had vegetated in the Bureau of Statistics. Now, he was old, physically infirm and had to be helped up and down stairs, and

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(1914)

E--695.

and the work he accomplished was negligible. In fact, after being helped to his chair in the morning he promptly fell asleep and would wake up only for luncheon and at closing time. He was so obviously a pensioner that the efficiency board recommended him for demotion, which was approved. This the poor old man regarded as a ~~gross~~ gross injustice, and time after time I had to glance through a bundle of papers testifying to his past brilliant record. He had another grievance. Earlier in life he had made a trip to Cuba or Panama and became interested in bananas. Upon his return he compiled all the statistical and other published data about bananas that he could find and wrote a bulletin on the subject. I read the manuscript and because I knew nothing about bananas thought it pretty good, but for some reason it had never been published, probably because bananas are not grown in the United States, or because the printing fund was low. That was a standing grievance with the old gentleman and he kept pestering me about it when I had other things to do. To pacify him I referred his manuscript to the Bureau of Plant Industry, which had seen it many times before, and in due time it came back with an adverse report to the effect that the statistical data were out of date and the biological data were obsolete. And so the old major spent the closing years of his life very comfortably in a chair in the Bureau of Crop Estimates, dreaming of his brilliant past and his wrongs and hoping against hope that his wonderful bulletin on the banana might be published before his death.

Another military figure was an old, white haired, gentleman, alternately fiery and apologetic, depending on the quantity and effect of the whiskey he consumed, who was a captain in the

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(1914)

E--696.

Confederate army from Virginia. He was little more than a messenger but was occasionally assigned to help out with simple clerical work. He had a fiery red face and his trouble was the demon alcohol. ~~From time to time~~ ^{He would go} he went on periodical sprees, after each of which he was very subdued and docile for several days. He had ingratiating manners but was wholly unreliable and the despair of his relatives and friends. During one of his unauthorized absences a messenger looked for something on his desk and not finding it pulled out a drawer in which was a pint bottle of whiskey and a small loaded revolver. I took charge of both articles and waited for the captain to report their loss, but he never did.

Some of the male clerks were troublesome because of their antecedents and habits, but I felt that I understood them and could handle them. ~~but I confess~~ ^{however,} I ~~was~~ often felt timorous in dealing with the older women. "The female of the species is the more venomous," said Kipling, or something to that effect, which is fundamentally true. These wrinkled old women that I found in the bureau all had grievances and I had one or more seances with each of them. They ~~xxxx~~ seemed to assume that all things went by favor and to forget that they were no longer young and attractive. Anything I said about quantity and quality of work, loyalty to the service and efficiency, seemed to pass over them like water over a duck's back. Most of them seemed to have been bitterly disappointed in life and were correspondingly bitter about the unjust treatment that had been meted out to them in the past, but this bitterness was as nothing compared with the bitterness with which they spoke of the infamous conduct of their female associates in the office with whom they had worked for so

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(1914)

E--697.

Their bitter enmity seemed to be directed not only against each other but more especially at some of the younger female members of the force, whose conduct and relations with some of the male clerks was described as simply scandalous.

I had a lot of trouble with a little red-headed, blue-eyed widow from Virginia who had in some way got herself appointed as a clerk in my bureau at \$1,000 a year, which was twice what she was worth. She had a son who was appointed^{ed} a page in the Senate. She got her appointment under the former Republican administration and so long as it lasted gave no particular trouble. But when the Democrats came into power she became obsessed with the idea that because she was a Democrat by inheritance, tradition and marriage, and because her people knew all the Democratic Senators and Representatives from her State, ^{or knew someone who did,} and the head of the Department of Agriculture was a Democrat, she should be promoted at once to one of the higher positions and salaries. Failing to get a ~~promotion from me~~ recommendation from me for promotion, or admission for a personal interview with the Secretary, she began to write long rambling letters, some signed, but others without signature, on cheap paper and with red ink, to the Secretary, to me, and to Senators and Representatives. The ~~xxx~~ letters were all referred to me and I readily identified the unsigned ones. Of course, she could get nowhere because of her low efficiency rating and the suspicion every one had that she was slightly unbalanced mentally. I had many interviews with her and tried every resource to pacify her and get her to see that she was fortunate to be retained in service at \$1,000 a year in competition with others who could do twice as much,

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(1914)

E--698.

and the thousands of other good Democrats whose ancestors ranked high as governors of States, colonels, or Civil War heroes, but she was obsessed with the idea that she was entitled to one of the highest salaries in the bureau. Twice she came to my residence in the evening for long heart to heart talks about her wrongs, her hopes and her ambitions. She did not quiet down for nearly two years, and not completely until the change to a Republican administration.

Another female clerk was troublesome. She was younger and fairly good looking, exceedingly effeminate, naive, and efficient only in the simplest and most mechanical and routine work, such as typewriting form letters where it was simply a question of writing the same thing over and over. She had first been employed in another office where by mere chance she had been promoted to \$1,400 a year, which was about five times what she was worth. She ^{was} ~~wa~~ so inefficient and useless that her chief finally succeeded ^{to get} ~~in getting~~ her transferred to another office, and she had been shifted ^t ~~ar~~ around until she finally landed in my bureau. Many years had elapsed without further promotion and instead of being satisfied with a relatively high salary she was dissatisfied ^{and} ~~an~~ excited. Her mother, friends, and Congressmen intervened in her behalf with appeals to the Secretary of Agriculture and to the President. Finally a letter came to the Secretary from the private secretary of the President, Mr. Tumulty, asking why Miss so-and-so had not been promoted in so-many years. I drafted the reply to the effect that it would be manifestly unjust to promote the lady in view of her unsatisfactory efficiency record in competition with others getting lower salaries but doing more and better work than she. Mr. Tumulty was rather

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(1914)

E--699.

persistent and came back with a letter to the effect that President Wilson was ^{her}~~personally~~ interested in the promotion of the young woman. Secretary Houston sent for me and asked if we could not do something about it. I said, "Yes, of course, I can resign, as I certainly will do if that woman is promoted over the heads of more deserving clerks, and she might be appointed as chief of the Bureau of Crop Estimates; or, better still, you ^{could}~~might~~ assure Mr. Tumulty that this valuable woman might be especially useful to him and that we will gladly detail her to his office along with her salary." The Secretary smiled and said "I gather that you are opposed to the young lady's promotion." I said "Absolutely, now and for all time, and rather than see her promoted over others I will tender my resignation right here and now, and if it comes to pass as soon as I am out of the service I shall see that my newspaper friends have the full story with trimmings." "Allright," he said, and officially that ended the matter. ^PUnofficially I learned that Mr. Tumulty was a Catholic. Also that the young lady was a Catholic and had been very successful in soliciting funds for a Catholic church, especially from young unattached men, and that Mr. Tumulty seemed to think it would be entirely proper to compensate her at the expense of the United States government. Within a day or two the mother of the young woman in question called to see me. I received her courteously, but when she began to talk about her daughter. I had ^{directed}~~shifted~~ ^{that} ^{he shifted} the daughter from one room to another, thinking new surroundings might improve her service. The mother said her daughter was very sensitive, very delicate, ^{very unhappy and} ~~was~~ heartbroken at the prospect of being transfereed from her beloved companions, could not eat, or sleep, ~~and~~ had wept her pillow wet the night before, and that it

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(1914)

E--700.

wss cruel and inhuman and just could not be. ~~I~~ My patience was exhausted, but before I said what I really thought I asked a few questions as politely and diplomatically as I could. Did she and her daughter live together. Yes. Had she any income other than the salary which her daughter received in the bureau. No. How old was her daughter. About twenty-eight. Had the daughter any suitors? Yes, a lot of miserable specimens of men who were not worthy of her. She grew quite voluble on the subject, to the general effect that her daughter was an innocent angel and no vulgar man should marry her and ruin her life's young dream. Then I asked suavely what would happen to her if her daughter should marry and the son-in-law should object to her presence in the new family. She said that such a thing would be outrageous and could not happen. I persisted in this line of questioning and it came out that she was wholly dependent upon the daughter's salary and that she had been moving heaven and earth to get her daughter's salary increased and to prevent her marriage. Among other things she said that it would be a calamity for her saintly daughter to marry a man, because all men were vulgar, and an even greater calamity for her to have children. I asked why she had married and had had at least one child. She was extremely bitter in her denunciation of her late lamented husband, ~~who was~~ a vulgar man, but whom she admitted she married for a home to escape the restraints of her parental home, and that the birth of a daughter was an accident. I was ~~so~~ so filled with wrath that ~~I~~ for the moment I forgot all the inhibitions of a gentleman and talked to that woman straight: I said to her that she was an utterly contemptible parasite, a parasite ^{first on her parents and then} on her husband who

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First on her husband's money

(1914)

E--701

and refused

was probably ~~a thousands times~~ more moral [^] than she was and earned a living for himself and her by honest work, and that the daughter was domestic and normal by nature and wholly unsuited for office work, but she, the mother, held her to it because she was a ~~worthless~~ parasite and utterly helpless and ~~utterly~~ selfish, and deserved to be put in prison at hard labor the rest of her life because of her sins against her husband and her daughter. I added that the obvious thing for her daughter to do was to get married and have as many children as she could and be a happy mother. The mother gasped that this was outrageous and that no man living was worthy of her sainted daughter. I countered with the statement that any man, even a tramp on the streets, was an angel in heaven compared with gold digger women and that any woman who would exploit her daughter and prevent her from marrying was a parasite and little better than a bedbug. She stared at me in frozen astonishment. I added that ~~I thought the best thing that could happen would be for her daughter to~~ ^{should} get married, because she was a worthless clerk and might make some man a good wife," and if she does," I said, "you know as well as I do that about the first thing you would do would be to look around and try to ensnare some innocent 'vulgar man' to marry and to support ~~X~~ you, which you don't deserve. Now the thing for you to do is to leave my office and think over what I have said; I'm busy and I never want to see or hear of you again; but you will find the Secretary of Agriculture in his office at the end of the corridor, most of the Senators and Representatives are in their offices at the Capitol, and the President and Secretary Tumulty are in their offices at the White House; perhaps one or the other of them will help you to find sanctuary in your beloved church

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(1914)

E--702.

for your sainted virgin daughter of the tender heart but no brains. As for you, here's the door," and I opened it and bowed ceremoniously to her. She left, and that was that.

Innumerable cases came up for attention, some with and some without merit, some humorous and some pathetic, because human nature is what it is and the application of uniform rules and regulations to a large group of people is bound to result in more or less injustice. I detested secrecy, spying, ~~gossip~~ malicious gossip, and the writing of anonymous letters and tried to squelch manifestations of these tendencies at the very beginning by calling the entire force together and telling them that we would all be happier if we felt we were working for a bureau of which we were proud than ^{for} a bureau of which we were ashamed, that the success of a bureau or any other organization did not depend upon appropriations, special favors, or any one individual, but upon the whole-hearted cooperation and united efforts of all; that I proposed that our bureau should make such a record for efficient service that every employe in would be proud to be identified with it and that I proposed to eliminate any and every employe who was not worthy to belong to such a bureau; that in my judgment any employe who told tales about his or her fellow employe^s, especially when those tales were simply lies, or who wrote anonymous letters, or who was so utterly worthless as a clerk and realized his worthlessness to the extent that he or she felt it necessary to ask any Senator or any Representative, or any other person, to intercede and solicit advancement at the expense of fellow clerks, was by that very act unworthy to remain in our organization. Then I said it was clearly the duty of any employe of the bureau who knew

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definitely and positively of any official wrongdoing, not private wrongdoing which did not concern us, but official wrongdoing, to come to the chief of bureau and tell him about it first and give him an opportunity to correct the matter; but I wanted it distinctly understood that any clerk who did so must come prepared with evidence to substantiate his statement and be prepared to repeat it in the face of the person he accused, and ~~that~~ failure to produce such evidence ^{or an} ~~and~~ willingness to repeat accusations face to face with the accused ^{so} ~~was~~ contemptible, so cowardly, and so criminal, that I would instantly recommend the discharge of any such person.

As time went on some of the clerks began to come to me and to insinuate that there was partiality shown in the matter of promotions. Again I called them together and, said I was tired of complaints about efficiency ratings and promotions. I reminded them that I had entered the service on a competitive examination and had never found it necessary to even discuss the question of my status with any official superior, that I was not acquainted with a single Senator or Member of Congress, and that ^{one} ~~no~~ knew or cared where I was from or what political party or religious faith I subscribed to. Then I outlined the difficulties inherent in any system of trying to estimate the relative merits of a miscellaneous group of people of different ages, sexes, dispositions, and engaged on different kinds of work. Next I outlined the system of semiannual efficiency ratings based on quantity and quality of work and loyalty to the service, and distributed among them copies of the blank forms on which they were rated, and explained what each question meant, and how they were tabulated and compared. Then I challenged them to suggest

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a better system, "it being distinctly understood, first, last and all the time that personal solicitation, outside influence, or relationship to a Senator, Member of Congress, Governor of a State, or a President of the United States, now or at any remote past time, simply does not count and cannot be taken into consideration, and that any clerk, man or woman, making that sort of appeal shows thereby that he or she is a degenerate and ~~has no business~~ ^{should have no place} in a business bureau of the government." Of course there was no reply, but a good many heads were bowed.

Continuing, I said that I was disappointed that no *one* stood up to suggest a better system than the one in use, but that a goodly number of the clerks in the bureau, especially among the older clerks, had taken up a lot of my time with complaints about partiality and injustice in the matter of promotions, that I was tired of it, and that ^{if they} were still dissatisfied they could resign, the sooner the better, because there was a long waiting list of people better qualified and it would make vacancies to which the younger members of the force who were doing the best work could be promoted. I said "If any one in this room has anything to say on this subject he can have the floor, or forever after hold his peace." Of course, there was no response, nothing but a dead silence. "Now," I said, after a pause, "I think we begin to understand each other. Some of you will understand even better after I put you to the test I have in mind. Some of you have accused me and other members of the bureau efficiency board of not knowing exactly what each of you does. That is partly true. But I am sure that each and every one of you thinks he or she knows what each of his associates in the same room does. I propose that

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(1914)

E--705.

each employe shall rate all ~~b~~ther employes in his or her room, exactly as the division chief has to do, using precisely the same blanks, and listing the clerks in his or her room in the order he or she thinks they should be promoted." A look of consternation passed over my audience. "That's all right," I said, I am only asking you to do what we members of the efficiency board have to do twice a year and get blamed for it afterwards; but to avoid embarrassment, you need not rate yourselves or sign ~~your~~ ^{the} ratings of your associates, and may deposit them in a box that will be provided for the purpose, so that no one will know who made ~~y~~ the ratings. When they are all in they will be tabulated in exactly the same manner as those of the efficiency board and compared with it to see exactly where your individual judgments differ from ours. Again I challenge every one present to suggest a better or fairer method to settle this question once and for all." Again there was a profound silence. ^P "Then," I said, "there~~s~~ is another matter I want you to consider, and that is the question of thirty days annual leave and thirty days sick leave. Both are purely within the discretion of the administrative officials and not ~~of~~ ^a legal right. I challenge any one of you to show the contrary. ^A Annual leave is for the purpose of recuperating from strenuous office work and is for the good of the service, but is to be granted only at such times as will least interfere~~d~~ with the service. Sick leave ~~is~~ for actual sickness that may come upon any one unexpectedly and not to do one's sewing or attend to other private business. Clearly there is something suspicious about a clerk who habitually, year after year, takes thirty days annual leave, and is annually sick exactly thirty days, and clear-

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(1914)

E--706.

ly a clerk who takes sixty days leave year after year is not as valuable to the government as one who takes only thirty days or less. I want each one of you to consider this factor in making up the efficiency rating of your associates. And now, my friends, I don't think I will be bothered for awhile with complaints about partiality and injustice in the making of efficiency ratings, because each and every one of you is going to be busy making them. This is not a suggestion, or even a request, but an official order. Good luck to you."

Upon returning to my office I sent for my chief clerk and instructed him to suspend all work and put his force to tabulating the annual and sick leave of all employes of the bureau for the previous ten years. When he turned in the tabulation sheets it showed, as I expected, that all the older clerks had taken their full thirty days annual leave and had been sick exactly thirty days, year after year. Then I instructed him to hang the tabulation on the wall in the main corridor where it would be accessible to all. It was a center of lively interest for several days. It was amusing to watch the behavior and the expression on the faces of the clerks during the following week. Two or three of the older clerks came to me and asked to be excused, but I was inexorable and assured them that any clerk who failed to turn in an efficiency rating for each of his associates would be deemed derelict and his efficiency rating would be marked down accordingly, and that we had an absolute check on them because the blanks were filled in with pen and ink and we knew the handwriting of every clerk. After that experience there was never a peep about partiality in the efficiency ratings. The procedure outlined was followed and with scarcely an exception

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(1914)

E--707.

the tabulated ratings made by the clerks themselves agreed almost exactly with the ratings previously adopted by the efficiency board, thus confirming the accuracy of the judgment of supervising officials and of the board.

The system with respect to the technical field agents was somewhat different because each worked alone in his State and conditions were widely different in the different States. At first the efficiency board simply gathered about my desk and discussed the relative merits of the field agents and their work and agreed ~~was~~ upon who was most deserving of promotion, if we could obtain it for him. On one such occasion I suggested, just as an experiment, that each of us take a sheet of paper and list the field agents in the order of merit, the most valuable at the top and the least valuable at the bottom and then compare our individual judgments. We did so without comment or consultation. When the sheets were laid out side by side and we gathered around to see the result we were all surprised to find that there was no difference of opinion regarding the first five or the last five. It was only in between that there was a difference of opinion, but a clear majority had listed the names of all the field agents in exactly the same order.

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